DOCUMENT RESUME

ED 021 943 UD 006 839

By- Gordon, Edmund W.

FINAL REPORT. COMMITTEE ON EXPERIMENTAL PROGRAM TO IMPROVE EDUCATIONAL ACHIEVEMENTS IN SPECIAL SERVICE SCHOOLS.

Committee on Experimental Program to Improve Educational Achievements in Special Service Schools, New York, N.Y.

Spons Agency- New York City Public Schools, Brooklyn, N.Y.

Pub Date 20 Jun 68

Note- 188p.

EDRS Price MF-$0.75 HC-$7.60

Descriptors- COMPENSATORY EDUCATION PROGRAMS, DEPRESSED AREAS (GEOGRAPHIC), *DISADVANTAGED YOUTH, EDUCATIONAL IMPROVEMENT, EDUCATIONAL NEEDS, *ELEMENTARY EDUCATION, *EXPERIMENTAL PROGRAMS, INDIVIDUAL INSTRUCTION, LANGUAGE PROGRAMS, PEER TEACHING, PRESCHOOL PROGRAMS, PROGRAM EVALUATION, *TEACHING MODELS, *URBAN SCHOOLS

Identifiers- All Day Neighborhood Schools, Mes, More Effective Schools, New York City

This report results from the efforts of a committee established to make suggestions for the use of a $10 million fund for the improvement of the New York City (NYC) elementary schools. The committee, consisting of school administrators, an educational specialist, and representatives from the United Federation of Teachers and the United Parents Association, made several visits to selected programs in NYC and other parts of the country. For the most part, however, the committee reviewed reports and program analyses supplied by the chairman's staff. The major thrust of the report is a proposal for an experimental program to test the value of four educational models assigned for disadvantaged pupils in economically depressed areas. The committee regards the proposed models as "the most promising patterns available at the present time." The report also includes a discussion of trends in elementary education, including the More Effective Schools program and the All Day Neighborhood schools in NYC. An appendix contains descriptions of various preschool programs, language programs, programs using individualized instruction, and programs using peer tutoring. (LB)

06839

Committee on Experimental Program
To Improve Educational Achievements
In Special Service Schools

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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FINAL REPORT

Submitted to the

SUPERINTENDENT OF SCHOOLS

June 20, 1968

UD006 839
ED021943

NEW YORK CITY PUBLIC SCHOOLS

TEACHING & LEARNING RESEARCH CORP.
300 OLD COUNTRY ROAD
MINEOLA, NEW YORK 11501

DIRECTORS
EDMUND W. GORDON, ED. D.
LOUIS J. HOFMANN, PH. D.
EDSEL L. ERICKSON, ED. D.
LEE M. JOINER, PH. D.

516 - 543 - 7029
201 - 224 - 8062
914 - 356 - 2841

June 20, 1968

Dr. Bernard Donovan
Superintendent of Schools
N.Y.C. Board of Education
110 Livingston Street
Brooklyn, New York 11201

Dear Dr. Donovan:

We are pleased to submit the final report of the Committee on Experimental Programs to Improve Educational Achievement in Special Service schools in the public schools of New York City. The report is in three parts plus appendices. Part I consists primarily of background material. Part II treats some trends and summary evaluation of current efforts in elementary education for the disadvantaged. Conclusions and recommendations are presented in Part III. The appendices consist of supporting materials.

The major thrust of the report is the proposal for collaboration between the Board of Education, United Federation of Teachers, and Parents Associations in the conduct of an experimental program to test the relative value of four models designed to improve educational achievement in special service schools. The major elements of each model are described in Part III. The proposal is intended to lead to a program in which specific elements within each model may be evaluated to determine relative values as well as the value of the total model. To do this will require a rigorous evaluation design which is implemented before or at least in the very early stages of the project. It will also require serious commitment and cooperation on the parts of all participating parties. If the overall purpose, intent, and plan is approved, a resolution committing the Board to such a program and inviting the participation of the UFT and selected parent associations is needed as a first step. There are several implementational steps which are explicit or implicit in the body of the report.

There are a few special concerns the Committee would like to call to your attention:

1. All of the models should be considered in the context of their intent and purpose. The elements included are considered by the Committee to be necessary parts. Since in some instances the total package may be so costly as to discourage replication, the Committee is continuing to consider modifications with a view to reduction in cost. Some possible reductions have already been identified and will be reported separately.

2. No specific reference has been made in the report to the ethnic and cultural composition of staff in the schools to be experimented with. The Committee feels that every effort should be made to staff the schools using these models with people representative of the multi-ethnic and multi-cultural population of our city. Even if it is impossible to fully integrate pupil populations in these schools, integrated staffs should be the rule. In doing so, special attention should be given to the utilization (in status and leadership positions) of persons whose backgrounds make it easy for them to emerge as positive role models for the dominant indigenous groups in each of these schools.

3. The report calls attention to the crucial role played by effective educational leadership in more successful programs. The Committee wishes to stress the need to give immediate attention to the identification and selection of Coordinators for each of the models. These must be people capable of providing competent and inspiring leadership. They will also need to have a special interest in and understanding of the particular model they are to coordinate.

4. The Committee was not asked to make specific recommendations concerning existing programs, but the More Effective Schools program has claimed a fair amount of the Committee's attention. Since it is the most promising of existing programs and since it will be continued, it should be compared to the models which will be a part of the proposed project. Therefore, the Committee feels that at least one recommendation is in order. This promising program could be substantially strengthened by providing it with central leadership. We recommend that a Coordinator for the MES program be appointed and delegated the same responsibility for its operation as that of the Coordinator of the four proposed models.

5. We feel that the project which is proposed here is of critical importance to education and particularly to the education of disadvantaged children. It will require considerable planning and monitoring in addition to the essential commitments mentioned elsewhere. The Committee feels that a group should be established to guide such planning and monitoring. The members of the Committee are willing to continue to function in an advisory capacity. Parallel and available to such an advisory group should be such staff as may be necessary to insure the proper conduct of the project.

We wish to thank you and your staff for your cooperation with the Committee. We are particularly appreciative to Miss Weil for her assistance to the Committee. We hope that our efforts will contribute to the improvement of education in New York City.

Very truly yours,

Martha Froelich
Blanche Lewis

Jules Kolodny
Carmella Nesi

Abe Levine
Frances Turner

Edmund W. Gordon
Chairman

EWG/kn
Enclosures

REPORT TO THE
BOARD OF EDUCATION
NEW YORK CITY

From The

Committee on Experimental Programs To Improve Educational Achievement In The Special Service Schools.

June, 1968

Teaching & Learning Research Corp.
P. O. Box 525
Pomona, New York 10970

THE COMMITTEE ON EXPERIMENTAL PROGRAMS TO IMPROVE EDUCATIONAL ACHIEVEMENT IN SPECIAL SERVICE SCHOOLS

	Name	Title
MEMBERS		
	Martha Froelich	Principal P. S. 129
	Jules Kolodny	Secretary & Assistant to President United Federation of Teachers
	Abe Levine	Vice President for Elementary Schools United Federation of Teachers
	Blanche Lewis	President United Parents Association
	Carmella Nesi	Assistant Superintendent District Eleven
	Frances Turner	President City Wide More Effective Schools Parents Association
CHAIRMAN		
	Edmund W. Gordon	Professor of Psychology and Education; Chairman of Department of Educational Psychology and Guidance, Yeshiva University; Professor and Chairman-Elect, Department of Guidance, Teachers College, Columbia University.
STAFF		
	Karin Notbom	Secretary
	Joan Schwartz	Research Assistant
	Louis Hofmann	Research Associate
	Trude Weil	Board of Education Liaison

TABLE OF CONTENTS

PART I

Page

1. Introduction.. 2
2. Needs of Children to be Served...................... 5
3. Elements Essential to the Fulfillment of these Needs 7
4. Goals of Elementary Education....................... 10

PART II

1. Trends in Elementary Education...................... 12
2. Efforts at Evaluation............................... 23
   a. General.. 23
   b. More Effective Schools........................... 25
   c. All Day Neighborhood Schools..................... 27
   d. Other New York City Programs..................... 28
3. Problems in Evaluation.............................. 30

PART III

CONCLUSIONS.. 33
RECOMMENDATIONS.. 39
MODEL A.. 47
MODEL B.. 60
MODEL C.. 69
MODEL D.. 79

APPENDICES

A A Review of An Assessment of the All Day Neighborhood School Program for the Culturally Deprived.............. A-1

B A Review of the Title I Evaluation, Expansion of the More Effective Schools Program........................... B-1

C A Review of Measuring Pupil Growth in Reading in the More Effective Schools.................................. C-1

D PRESCHOOL PROGRAMS

1. Ashton-Warner...................................... D-1
2. Bereiter-Engelmann................................. D-3
3. Deutsch.. D-5
4. Integrated Day in English Infant Schools........... D-6
5. Klaus - Gray....................................... D-7
6. Sprigle.. D-8

cont...

Page

E INDIVIDUALIZED INSTRUCTION

1. American Institutes for Research.................. E-2
2. Duluth, Minnesota Public Schools.................. E-7
3. University of Pittsburgh, Learning Research & Development Center............ E-10
4. University of California, Elementary School....... E-14

F LANGUAGE PROGRAMS

1. Tucson Early Education Model, Tucson, Arizona..... F-1
2. Malabar Reading Project, Los Angeles, California.. F-15
3. Perception-Language-Concept Development Program, New York, New York...................... F-20
4. Corpus Christi Bilingual Program, Corpus Christi, Texas................................. F-26
5. Language-Bilingual Education Program, Austin, Texas.. F-27
6. Early Childhood Bilingual Education Project, New York, New York.............................. F-28

G PROGRAMS USING PEER TUTORING

1. Homework Helper Program........................... G-1
2. The South Vermont Tutorial........................ G-1
3. The Ohio Civil Rights Commission.................. G-2

H GENERAL BIBLIOGRAPHY.............................. H-1
ANNOTATED BIBLIOGRAPHY............................ H-4

PART I

1. Introduction
2. Needs of Children to be Served
3. Elements Essential to the Fullfillment of these Needs
4. Goals of Elementary Education

1. Introduction

This document is the report of the Committee on Experimental Programs to Improve Educational Achievement in Special Service Schools of New York City. The Committee was established as agreed upon in the 1967 collective bargaining negotiations between the United Federation of Teachers and the New York City Board of Education. The relevant section of that agreement reads as follows:

> "In addition to continuing present intensive experimental programs for educational excellence, such as the More Effective Schools, the All Day Neighborhood Schools, the five new primary schools, and the newly strengthened program in the Kindergarten through second grade in special service schools, the Board of Education agrees to set aside a fund of $10,000,000 for the 1968-9 school year for elementary schools.
>
> "A work group will be established to make appropriate studies and to submit recommendations to the Board of Education for the utilization of the special fund. Recommendations of the work group will be subject to the final approval of the Superintendent of Schools and the Board of Education. Not less than $5,000,000 of this fund shall be used by the Board for intensive programs for the reorganization

> and improvement of additional schools. The work group will consist of two representatives of the Union, two representatives of the Board, and two representatives of parent or community groups, chosen by agreement of the Board and Union. It will be chaired by an eminent elementary school educator selected from outside the school system by the Superintendent of Schools."

Although the Committee's work and its report are in part results of this agreement, the issue to which this activity is directed is far broader. The central issue concerns the improvement of educational achievement for thousands of children who, because of a number of interrelated circumstances and conditions, have progressed at rates far below national norms. These children tend to be concentrated in economically depressed neighborhoods and tend to be served by special service schools. The Board of Education and the United Federation of Teachers have a history of concern with this problem. The Board has sponsored a number of projects designed to improve services and achievement for such children. The United Federation of Teachers has designed a special program, the More Effective Schools, and the Board of Education has established 21 such schools in addition to its other special projects. One of the specific questions leading to the creation of this Committee had to do with the expansion of this program. In the most recent collective bargaining negotiations between the Board and the Union, it was agreed that ten million dollars would be spent during the school year 1968-9 on experimental programs designed to improve achievement in special service schools. The task of the Committee has been to prepare recommendations to the Board of Education on the nature of that experimental work. To this end the Committee has sought:

a. to identify programs and practices in elementary education which show promise for improving achievement in special service schools

b. to select relevant aspects of these programs and combine them in models judged to be appropriate to the needs of the target population

c. to describe some of the administrative and organizational conditions thought to be necessary in the implementation of these models, and

d. to prepare a report in which recommendations are made concerning models and conditions for a program of collaborative experimentation and research involving the Board of Education, the United Federation of Teachers, and selected school parent associations

The Committee has functioned primarily as a deliberative body. Several members of the Committee made some site visits to selected programs in the New York City system in order to become more familiar with the most relevant programs. However, most of the material studied and discussed by the Committee was supplied by the chairman's staff. The chairman's staff supplied the members of the Committee with reports, reviews, analyses of existing programs, descriptions of experimental projects, and digests of research and evaluation studies. Committee meetings were scheduled to consider: reactions to these materials; presentations of reports by the chairman and Committee members of their visits to programs in New York City and other parts of the country; discussions by the chairman of consultations with parents, teachers, supervisors, consultants, and researchers; and reactions to drafts of the report prepared by the chairman.

The chairman visited several programs in New York City and other parts of the country and conferred with numerous people and organizations. Among the New York City groups were the following:

1. Persons representing the original planning group and the ongoing administration of the More Effective Schools program

2. Persons representing the administration of the All Day Neighborhood Schools program

3. The director of the Bureau of Speech Improvement

4. Representatives of the Principals' Committee on Innovation

5. Community leaders whose primary concern is education

6. The presidents of the United Federation of Teachers and the Afro-American Teachers Association

The staff's work was directed at preparing background materials for the Committee and the report. Staff members visited schools in New York City and several other cities; conducted bibliographic searches; interviewed teachers and administrators; developed budget materials and converted interview, observation, consultation and committee deliberation transcripts into copy for the record or report.

2. Needs of Children to be Served

In its deliberations the Committee has been guided by concern with some general needs of elementary school children which should be met through the school. These needs are relevant for all children but are of special significance for pupils in special service schools and other pupils who are not functioning at appropriate levels due to handicaps derived from their low economic, ethnic, or social status. Those primary though generic needs are:

A. The need that the school appreciate and understand the behavior and status of these learners including group as well as individual differences:

   1. identification and analysis of specific cognitive and affective behaviors peculiar to the group and idiosyncratic to individuals and subgroups

   2. recognition of the heterogeneity peculiar to this population

   3. use of above in design of learning experiences to meet individual and group differences in readiness and style

B. The need that the school provide compensation for deficits resulting from deprivations in background and support for strengths and special patterns of function born of their special experiences:

   1. experiential enrichment
   2. skills and competencies mastery
   3. complementary and relevant learning experiences

C. The need that the school identify and/or revitalize pupil potential for enthusiastic involvement in formal as well as informal learning:

1. recognition of attitudinal and motivational resources as they already exist

2. remotivate and/or create attitudinal sets condusive to learning

3. use of above in organization of formal and informal learning experiences

3. Elements Essential to Fulfillment of these Needs which should be Provided for in the Programs to be Recommended

A. Behavior and Status Analysis:

1. continuing qualitative analysis of learning and adaptive behavior

2. descriptions of behavioral functions and status

3. above to be reached through use of standardized tests

- a. achievement
- b. intelligence (individual intelligence tests will be utilized to detect learning patterns rather than aptitude)
- c. social development
- d. physical development and nutritional status

4. above to be reached through use of nonstandardized instruments and procedures

   - a. structured new learning tasks
   - b. naturalistic diagnostic observations
   - c. indices of self-perception
   - d. subjective teacher judgments

B. Provision for Increasing the Quantity, Variety, and Quality of Phenomena the Youngster is Exposed to:

1. compensation for gaps in experience through contact with

   - a. objects -- materials, events
   - b. persons -- representing various races, ages, sexes, ses

2. compensation for gaps in skills
    a. perception and discrimination
    b. symbolization and language usage
    c. structure and organization of the environment
    d. attention and task involvement
    e. utilization of personal and environmental resources
    f. strategies and habituation in approaches to learning

3. gaps in school experience

C. Utilizing and Focusing Motivational Energies:

1. meaningful involvement of community and family with school staff
    a. prevention and resolution of value conflicts
    b. establishing communication, interaction, and accountability between home, school, and community

2. materials and learning experiences relevant to the individual and the multiple cultures of which he is a part

- a. materials generated by teachers and pupils
- b. game theory
- c. computer and other machine assisted instruction

4. Some Goals of Elementary Education which should be Reflected in Recommended Programs

    1. Attitude of appreciation for knowledge and understanding as tools
    2. Attitude of appreciation for learning as a continuous and satisfying process
    3. Wholesome attitudes toward themselves as capable beings who have the power to influence the present and the future
    4. Positive attitudes toward the school and other community resources as instrumentalities for their development and the forward movement of their communities
    5. Attitudes toward abstract and concrete problems as challenges to be confronted, engaged in, and overcome
    6. Acquisition of skills in the use of words, numbers, and other symbols to communicate feelings, information, and relationships

7. Mastery of orientation information relative to self, family, and community, as well as one's social and physical environment

8. Wholesome physical development and mastery of gross and fine motor skills

PART II

1. Trends in Elementary Education
2. Efforts at Evaluation
    a. General
    b. More Effective Schools
    c. All Day Neighborhood Schools
    d. Other New York City Programs
3. Problems in Evaluation

1. Trends in Elementary Education

There is considerable ferment in elementary education today. Schools are experimenting with programmed instruction, individualized instruction, non-graded classes, heterogeneous ability, economic and ethnic grouping, "new math," revised curriculums for teaching biological and social sciences, game theory, computer assisted instruction, and even some slight changes in the preparation of teachers. Some of this experimentation has been directed at the problems of educating disadvantaged children. Most of these innovations, however, have been directed at the educational problems of the general and more privileged school population. Yet, there is considerable activity in schools serving disadvantaged children. In fact, as one surveys programs across the United States, the impression is gained that in terms of new programs and children served, the largest single emphasis in educational experimentation is that directed at disadvantaged populations. The emphases in this experimentation overlap but do duplicate trends in general elementary education. Programs and practices for the disadvantaged tend to include one or combinations of the elements listed below.

a. **Lowered age at which formal education is begun:**

The downward extension of publicly supported education has been the most universally applied new program.

Utilizing funds provided by Head Start, Title I, foundation support, and, in some instances, local funds, kindergarten and nursery school experiences have been provided for large numbers of children for whom organized educational experiences would otherwise have been delayed until 1st grade or kindergarten. The results of these efforts have tended to be positive in the sense that most evaluations have led to the conclusion that affective and cognitive gains are associated with such early educational experiences. The results, however, do not show the target population matching their more privileged peers in achievement, but the gap between the two groups is consistently reported to be reduced. The permanence of the advantage over nonparticipating peers in the absence of specific follow-up programs has been questioned. This latter concern has led to efforts at modification of the primary grades curriculum to build upon these gains resulting from preschool.

b. Strengthened instruction in basic communication skills: This emphasis has resulted in little that is new in instructional techniques in communication skills but has produced a greater concentration on languare arts, reading and arithmetic. In some schools these skills are stressed to the neglect of other types of learning. In many, specialists have been introduced or teachers have been encouraged to specialize. Special bilingual programs, audio-visual materials, mechanical teaching devices, electronic monitoring devices, and materials more relevant to the indigenous cultures have been introduced. There has been no overall evaluation of these efforts, but a review of selected evaluations of specific projects reveals mixed results. No particular strategy stands out as the universal answer, but all probably have promise particularly in combination with other modifications in the educational and life experiences of the children served.

c. Enriched language experiences:

The problems involving language differences and deficiencies are considered to be so crucial that the category, enriched language experience, deserves mention separately from the general concern with communication skills. This area has been approached obliquely and directly. Many programs place emphasis on broadening the cultural, experiential, and informational exposure of children in the expectation that having more to talk about will result in greater language facility. Some programs have given new recognition to the indigenous language and have stressed facility in that language as a basis for later transition to standard English usage. A few programs have stressed the social utility of language and have concentrated on creating situations where that utility and the need for language are obvious. The age old technique of labelling has been reemphasized. Concern with language models has been asserted. Comparative studies of these techniques of language enrichment are rare. Evaluation data are hard to obtain and where available tend to be equivocal. In observing these practices in operation one senses that there are a variety of conditions by which language development can be facilitated. Concentrated and enthusiastic work along any one of several lines seems to be associated with some pupil growth. Observational and evaluation data do not yet allow for the rank ordering of these approaches.

d. Individually prescribed learning experience:

One of the oldest concerns of education is reflected in individually prescribed instruction which is probably one of the newest trends in education. The concern is with matching learning experiences to the characteristics and needs of children who vary in a number of ways. The major efforts so far have been directed at prescribing learning units which match the achievement level, learning rate or special intersts of individual children. In these programs each child is encouraged to move at his own rate and in areas which are of greatest interest to him. One of the existing programs attempts the design of learning encounters which complement aspects of personality so that teachers of a particular type are matched with pupils who are judged to be most likely to benefit from their special traits. Most of these programs use existing curriculum materials with varying degrees of modification. None of the programs have seriously engaged the problems of diagnosing affective and cognitive style and developing materials and techniques which match stylistic variations in learning. Effort at evaluating programs of individualized learning are premature in view of the early stages in which so much of this work is found. Initial data and impressions are, however, quite promising. It is of particular interest that in one of these programs the range of achievement scores of pupils in the program seems to have broadened. Not only are the upper limit scores higher but the lower limit scores are lower than comparison groups. It is not yet clear how to account for this suggested "better than" and "worse than" effect. It is possible that stylistic adaptations may reduce the drop in lower limit scores.

e. **Reduced ratio of pupils to adults in the classroom:** Numerous approaches to reduced ratio of pupils to adults are currently being tried. Reduced class size, the use of two teachers in a single classroom, the use of teacher aides, the use of team teaching, and the use of cluster, swing or itinerant teachers are among the most common patterns. Although there are many good reasons for reducing the number of children a single teacher is responsible for or for increasing the number of teachers or adults responsible for a group of children, there is no data available upon which a definitive judgment can be made relative to the effectiveness of these practices.

f. **Team teaching and clustering of classes to allow for multiple teacher exposure and planning:** Quite apart from their impact on pupil to adult ratio, team teaching and clustering of classes have been introduced to provide for collective planning, peer supervision, and multiple teacher exposure. The practices involve the assignment of several teachers, usually four or five to three or four classes. Individual teachers may be primarily responsible for individual classes or specific content areas across classes. In some cases a master teacher serves as leader or resource teacher for the group of teachers. In other cases one of the teachers is assigned to move from class to class as a supplementary teacher with all teachers having parity of status within the group. In the various patterns there is usually collective responsibility for all children served by the group of teachers, consultation and supervision are available within the group, and specific as well as total group planning is coordinated in the group. Teaming or clustering of teachers per se has not been evaluated as such. In efforts at evaluating programs in which these practices have been used, pupil achievement has not suffered and sometimes has been accelerated. Observers of these practices report good pupil and teacher morale and generally positive teacher and administrator acceptance.

g. Improved teacher resources and supports:

In a great number of programs, considerable attention has been given to the introduction of more varied instructional material, the utilization of paraprofessional assistance in and outside the classroom, the allowance of additional school day time for preparation, as well as the provision of more extensive supervision. A wide variety of new materials have been made available. In a few instances schools have introduced instructional resource centers manned by specialists to insure that teachers not only know such materials are available but also to provide assistance in their use. The greatest emphasis has been given to materials which more adequately reflect the multicultural nature of our society. Effort has also been directed at the preparation of more attractive and socially relevant materials at multiple levels of difficulty. Greater attention has been given to programming and formatting of materials and much material has been presented in the form of games. Recognizing that much of the teacher's time is occupied by non-instructional tasks which do not require the competence of professionals, many programs have introduced into the system persons without professional training to perform these functions. These sub- or para-professionals assist teachers with record keeping, management of materials, group management tasks, and in some instances have been trained to conduct specific instructional activities. Through the use of teacher specialists or large group instruction to cover classes for particular periods, teachers have been allowed additional time to be used to prepare for instruction. To further strengthen and improve teacher effectiveness, additional attention and personnel have been provided for supervision and training. In a few instances, principals have been relieved of some managerial tasks and encouraged to devote this time to educational leadership, teacher training, and teacher supervision. In other instances, assistant principals have been added or otherwise freed to provide such assistance. There is no available specific evaluation of these supportive services. In observation of programs, however, it has been reported that effective programs tend to be associated with richness of such supports and especially with goodness and strength of educational leadership and supervision.

h. Increased interaction between home, school,and community: More active involvement of home and community in the affairs of the school as well as in the education process has become a universal element in programs for disadvantaged children. The reflection of home and community in the content of the educational experience has become an often verbalized goal. The achievement of neither of these, however, is most often the case. In practice, there has been considerable discussion and beginning movement, but in very few instances have effective patterns of productive interaction between home, school, and community materialized. It is generally agreed, however, that unless reciprocal interaction between home and school and reciprocal respect for the values of each can be achieved, the productiveness of the school will be impaired. There is mounting evidence suggestive of a positive relationship between goal determination and task involvement. It would appear that participation in the determination of policies of the schools that these children attend by their parents and community members would be positively reflected in increased commitment to the objectives and program of the school. Effort directed at decentralization, the establishment of local school councils, strengthening parents associations, and broadening the bases for parent, community member, and teacher cooperation in the improvement of education are steps in this direction.

i. Greater variation in the composition of pupil groupings: Some programs have gone to some length to modify grouping patterns to achieve either greater heterogeniety or homogeneity with respect to ability, cultural, economic, or ethnic background. In the absence of unequivocal evidence supportive of heterogenous or homogenous grouping, variations in both directions are common. In many programs the traditional concern with placing pupils of like ability together for most or all of their learning experiences is an active practice. Although many arguments have been advanced to support homogenous grouping, the most compelling is the claim that where teacher competence is variable, the grouping of similar pupils is advantageous since it reduces the demand on the teacher. On the other hand, many schools have attempted to capitalize on implicit advantages of heterogenous grouping. In some instances, the focus has been on children of mixed ability or achievement levels. In other cases, cultural, economic, and/or ethnic mixing has been emphasized. Available data on economic and ethnic group integration indicate that where pupils from minority or low income groups attend schools that serve predominantly majority group or middle income children, achievement for the less privileged pupils is accelerated. In the several studies of desegregated school experiences, there are almost no cases of lowered achievement and many reports of stability or acceleration in achievement. There is also evidence that peers make substantial contributions to the learning of their peers. Where peers (slightly older or more advanced) have been used as tutors, not only did the less advanced pupils show progress but the more advanced tutors are reported to have consolidated their gains and in some instances accelerated their own development. In the absence of definitive findings but with clear evidence that heterogenous grouping seldom if ever retards progress, the humanitarian and social bases for heterogenous grouping provide sufficient weight to tip the balance in preference for that grouping pattern.

2. Efforts at Evaluation

a. General

These several programs and practices are usually directed at compensating for or preventing the negative effects of hostile, insufficient, indifferent, or simply different conditions of prior pupil experience and stimulation. The typical aim or goal is to bring children from disadvantaged backgrounds up to a level where their academic achievement approaches or equals the norms established for the general school population. Other objectives are sometimes cited to include concern for attitudinal, emotional, and social gains. However, the criterion most often referred to is that of academic achievement. The pressure to get these programs under way has led to greater emphasis being placed on program implementation than on evaluation. In those cases where evaluations have been conducted, the question usually asked is "What differences can be observed in the academic achievement or intelligence test scores between pre and post treatment measures or between children served and their controls?"

Despite the wide variety of practices and special programs extant, there are little good evaluation data available. Many of the projects have not been evaluated; where data are available, they do not provide unequivocal answers to questions relative to specific impact. Rather, these programs and practices tend to be judged impressionistically, often on the basis of teacher or parent enthusiasm, or even on the prominence of the project sponsor. In reviewing both available data and less formal reports, one is impressed with the number of different efforts which seem to result in at least temporary improvement either in actual achievement or attitude. So varied are the innovations and unpredictable the results that it is safe to assume that factors in addition to the specific innovations are operating to influence results. It may be that almost any procedure, systematically applied with enthusiasm or positive expectations will be marked by some shift in criterion measures. Research on these issues does not permit us to say exactly what is contributing to the outcome.

It is interesting that no programs report completely negative results. There are a few projects which report no difference between pre and post test scores for specially treated pupils. Many programs which have evaluation data report increased levels of achievement or rates of development but in very few instances do the gains in achievement bring these children up to national norms. With or without data, most reports refer to gains in teacher and pupil morale, better climate for learning or improved attitudinal and social development. None of these programs have resulted in universal improvement in achievement for all pupils served. In every instance some pupils improve more than others and some not at all. In certain programs utilizing individualized instruction, the range of achievement has been extended in both directions; some pupils at the lower end of the achievement continuum have developed at a slower rate while youngsters at the upper end have evidenced accelerated development.

b. More Effective Schools and All Day Neighborhood Schools

Special attention was given to three evaluation reports. They are "An Assessment of the All Day Neighborhood School Program for the Culturally Deprived" (see Appendix A), the Title I Evaluation "Expansion of the More Effective Schools Program" (see Appendix B), and "Measuring Pupil Growth in Reading in the More Effective Schools" (see Appendix C). The first two of these reports on New York City public school programs led to rather pessimistic conclusions about the impact of both of these programs. It is the Committee's judgment, however, that in the case of the More Effective Schools program these conclusions were premature and in error.

The More Effective Schools program covers the grades from pre-kindergarten through grade six. Its main features are: reduced class size, clustered classes, additional teaching specialists, and heterogenous grouping of children. It is presently being conducted in 21 New York City schools. The Title I evaluation of MES, while not demonstrating outstanding educational benefits, can be interpreted as showing quite consistent positive results in favor of MES over more conventional special service school programs. That study concluded "that the MES program has made no significant difference in the functioning of children...in mathematics or reading on standardized tests." On reanalysis of data used in that evaluation (see Appendix C) with a view to the longitudinal study of pupils in MES programs for two and three years, it is clear these pupils in M.E. schools consistently exceeded their controls in tests of reading achievement. When the criterion used was reduction in reading retardation, the MES groups showed greater reduction in retardation than did the control groups in 17 out of 20 comparisons. The three remaining comparisons were at the fourth grade where there was no difference in reduced retardation between the two groups. At no point did the control groups exceed the gains of the MES groups. The conclusion drawn from this reanalysis is that 2 and 3 year attendance in the MES school is associated with a reduction in reading retardation.

c. **All Day Neighborhood Schools**

The All Day Neighborhood School program is currently being operated in 14 New York City schools. It provides additional "group teachers" from 11 AM to 3 PM and social club activities for selected children from 3 to 5 PM. The program is not particularly directed at improved academic achievement; it is more concerned with attitudinal and social development. When academic achievement is taken as the criterion measured, a reevaluation of the ADNS program evaluation data leads to no reduction in pessimism. While the notion of increasing the length of the school day by the introduction of highly motivating after school activities is appealing, immediate achievement gains in excess of those typical of more conventional schools are not associated with this special experience.

In assessing the impact of both of these programs, consideration must be given to factors in addition to academic achievement. There is a high degree of personal involvement manifested by staff members in both programs. Factors such as enthusiasm and identification with the programs are reflected in staff morale. This is particularly the case in many of the More Effective Schools. In some of the MES schools one senses a climate for learning and a respect for teaching which are indeed refreshing. Level and nature of community involvement in these programs are discernibly different from that typically seen in special service schools. For both programs there is considerable community support; however, the support for ADNS seems to be reflected more in social interaction and cultural supplements while community support for MES reflects a greater concern with the more formal in school and academic factors.

d. Other New York City Programs

Among the other special programs designed to improve instruction in special service schools are the Experimental Primary and the Reduced Pupil-Teacher Ratio. The Experimental Primary Program is being tried in five New York City schools. It includes prekindergarten through grade six, but emphasizes prekindergarten and kindergarten. The program was designed to provide additional teachers, teacher aides, guidance counselors, and social workers, as well as extending school services until 5 PM. The Reduced Pupil Teacher Ratio program includes grades one and two in 262 New York City schools. The pupil teacher ratio is reduced to 15:1 in first grade and 20:1 in second grade. Both of these programs are so new that evaluation data are not yet available. From our observation of these programs it appears that the Experimental Primary should show some positive results but it suffers from lack of enthusiasm and commitment on the part of staff. There appears to be insufficient staff. Where staff is available it is not always appropriate to the need, and the schools seem to have no specific awareness or guidelines for the direction in which the program should go. Staff members have not been adequately trained nor have they had a body of experience from which to turn for guidance. The schools in which these programs exist have not yet developed the sense of mission. All of these factors may bear upon the quality of implementation and ultimate pupil development. The Reduced Pupil-Teacher Ratio program also suffers from newness and insufficient staff preparation. In addition, this program depends heavily on the ability of two teachers to work cooperatively in the same classroom. In a few instances teachers were observed working in excellent cooperation. In other cases, the sedond teacher was essentially wasted since the activities actually performed could have been handled by a paraprofessional. Teachers are divided in their estimate of the value and feasability of the Reduced Ratio program. Most teachers with or without experience in the program expressed a preference for fewer children in a separate classroom. A minority, consiting chiefly of younger and beginning teachers, expressed strong support for the practice and marshalled arguments in its defense.

3. Problems in Evaluation

The available formal evaluation data and subjective judgments do not provide an adequate basis for policy decisions relative to the future of these programs. More thorough and thoughtful evaluations and comparative studies are necessary. There are several ways in which more appropriate evaluations may be developed.

The programs themselves must have more specific goals and explicit procedures. A more specific analysis of input which is executed on a wider basis would allow researchers to evaluate more adequately the effect of the programs.

Second, the introduction of innovations on a partial basis in many schools would reduce school biases to a large extent. If special materials or services are introduced to a random subset of classes in a wide range of schools, the effective sample size of these evaluations will be the number of classrooms rather than the number of schools. This would reduce experimental error and make detection of the effects of the programs more likely. Many of the difficulties of evaluation result from the late entry of the evaluation team. If researchers were allowed and encouraged to participate at the formative stages of these programs, fewer ambiguous findings would result.

There is no question but that many contemporary conditions in New York City public schools should be changed. There is also much in the system that is good and must be retained. However, a great deal of information is needed about many of these programs and practices if we are to make intelligent decisions. To obtain this information in forms which permit rational decision will require a serious commitment to evaluative research conducted under conditions which permit comparative and qualitative analyses resulting in hierachical ordering with respect to value. A concerted systematic effort to undertake investigations of this type will require not only good will and cooperation, but the joint efforts of administrators, parents, researchers, and teachers.

PART III

CONCLUSIONS

RECOMMENDATIONS

MODELS A, B, C, & D

There is no generic model or single program which merits such confidence as to lead us to recommend it as the program of preference in the New York City school system. Rather, there are aspects of several programs and projects which have potential for serving our purposes. These can be combined in a number of ways with high promise for staff and pupil morale and pupil achievement. Positive results from these innovations will occur to the extent that: (a) staff of ability and commitment can be developed; (b) flexible and supportive administrative and organizational conditions can be instituted; (c) a responsive and sensitive system of accountability can be maintained.

CONCLUSIONS

1. Existing Programs in New York City

Many interesting and promising approaches to elementary education are to be found in the New York City school system. Their importance and potential value may be less apparent because of organizational and implementational problems and in some instances because of failure to call special attention to unusual achievements. Among these programs are the More Effective Schools, All Day Neighborhood Schools, Experimental Primary, Nongraded Classes, Reduced Pupil/Teacher Ratio, as well as some more routine programs which are particularly well run and are associated with rather high levels of achievement. Aspects of any one of these programs could do much to improve educational achievement and one, the More Effective Schools, is notably associated with significant improvement in achievement levels in certain schools. However, it is clear that there is no single program which merits such confidence as to lead the Committee to recommend that it become the generic model for the New York City school system. Certainly, none has definitively solved the problems of academic retardation in special service schools.

2. Existing Programs Outside of New York City

New York City ranks high, if not first, among U. S. school systems, in its efforts at improving educational opportunities. However, there are a few programs which have been developed outside of New York City which show high promise for improved learning in children. Several approaches to prescriptive diagnostic evaluation of pupils combined with individualization of instruction show high promise for successful application to our target populations (see Appendix E). In addition, programs which place emphasis on basic skills development (particularly language development), and those which extend portions of the school day and year, and those which reduce the ratio of pupils to teachers show promise.

3. Parent and Community Involvement

Parental and community involvement and identification with the school have always been important, but in the present period they have emerged as crucial elements in education. In addition, the current socio-political situation has made the schools' accountability to parents and other persons in the immediate community an issue of first level priority. There is every reason to believe that successful work in special service schools will depend heavily upon the quality of the communication, interaction, and accountability which can be established between home, school, and community.

4. Administrative Climate

Although many of these promising programs in New York City and elsewhere have much to commend them on purely pedagogical grounds, the patterns of success and failure observed suggest the importance of non-instructional factors. It appears that within limits the specific program elements may be less important than the administrative and instructional circumstances under which the program elements are implemented. Organizational structures which release educational leaders, trainers, and supervisors to pursue activities specifically designed to improve instruction and learning are associated with programs which show more promise. Where principals, assistant principals, and supervisors are preoccupied with management and crisis activities, little time is available for educational improvement. Dynamic and capable leaders must be provided and the organizational structure must enable and encourage leaders to lead.

5. Staff Training

The competence levels of far too many people involved in or available to education have long been a source of concern. Experimental programs create an even greater need for new and more effective in-service training programs for all school staff members.

6. The Effects of Experimentation and Evaluation

It appears that the fact of innovation and experimentation may themselves have an independent effect. Since some gains may be observed in a wide variety of experimental settings, it may be that the Hawthorne and Rosenthal effects contribute significantly to the results obtained. Certainly, the enthusiasm and attitude of expectancy characteristic of many of the participants in these programs must be recognized as having some impact. For school staff, a serious commitment to experimentation may in and of itself create conditions conducive to effective instruction and learning.

In addition, concern with program evaluation seems to have a positive effect on the effort applied in implementing the experiment. It seems clear that where measured outcomes are perceived as important, program input receives more systematic attention. The influences of experimentation and evaluation, combined with the absence of a single program which merits endorsement in its present state, make the experimental introduction of elements from several promising programs a logical next step in improving elementary education in special service schools.

7. The Committee agrees that there are several general issues which must be dealt with in the recommended programs:

   a. It is essential that the program allow for reduction of the ratio of pupils to adults in certain learning situations. Such a reduced ratio should take into consideration the child's need for continuity in direction and personal interaction and must vary according to the requirements of the specific learning task.

b. Staff must be adequate in size and in competence. Major attention will have to be given to recruitment, preservice and inservice training, as well as conditions of work and tenure. Every effort must be made to relieve teachers of non-essential tangential tasks, thus freeing them to devote their time to teaching.

c. It seems desirable that the school day and year be extended to provide instructional and supervisory services during afternoon and summer periods in which the absence of supports for academic and social learning may be defeating to the purposes of the school.

d. The importance of integration in education is supported by the finding that majority and low-income group children show greater academic gains when educated in settings in which majority and higher-income group children dominate. Although it may be possible in some settings to develop programs which result in high academic achievement in ethnically or economically homogeneous schools, it is nearly impossible to develop programs which result in the optimal achievement of democratic attitudes and practices in such segregated environments. Thus, for pedagogical and social reasons, no effort should be spared in creating the administrative and organizational arrangements which provide for integration by ethnic, cultural, and economic group.

e. Adequate classroom space and facilities must be provided. They should be styled as far as possible to facilitate the instructional organization of the program. Lack of space within any school is not a justification for failure to provide needed services. Other community facilities should be adapted for class activities -- e.g. store fronts, settlement houses, temporary classrooms, trailers.

f. Organizational structures will have to be developed which allow and encourage full participation in the affairs and decision processes of the school by persons indigenous to the community. The Committee feels that the school must be accountable to the community it serves, particularly for the progress made in the development of its pupils. Such lay participation will require adequate provision for educational leadership.

RECOMMENDATIONS

The Committee recommends that the New York City Board of Education, the United Federation of Teachers, and the parent organizations of several school communities join forces in a program of educational experimentation and research designed both to improve and evaluate educational progress in various special service schools.

1. The Committee recommends as an initial step that this research program focus on a large scale four year minimum field test of four basic models. After studying and/or observing various exemplary programs throughout the country, it is the Committee's judgment that these models represent the most promising patterns available at this time. Since these models must not be viewed as the best possible programs, it is imperative to determine their relative appropriateness and value, as well as to improve them through continuing research. Each of the experimental models includes several program elements judged by the Committee to be important for education of high quality. These elements have been grouped together to form "experimental models" because the Committee feels that the use of one or two of the elements alone has limited promise of effectiveness and that certain combinations of program elements will prove more efficacious than others. Evaluation research will isolate single program elements as well as combinations to determine the crucial components of effective education.

2. It is recommended that the life of, and charge to, the Committee be extended to include responsibility for the supervision of the study. The Committee should be authorized to institute the schedule which follows:

   a. Selection of participating schools on or before June 15, 1968

   b. Institution of School Councils in chosen schools on or before June 30, 1968

   c. Designation of Coordinators of the several model school groups on or before September 1, 1968

   d. Implementation of the key aspects of the program in all model schools as soon after September 1, 1968 but no later than January 1, 1969

3. It is recommended that, in selecting schools for this program, primary consideration be given to educational need, potential for staffing, acceptability of model to the parents' organization, and availability of facilities. The models used in each school selected should be adapted to reflect the special needs and climate of the school and the population served. However, it is equally important that all schools following the same model maintain the basic elements and intentions of that model.

4. The Committee recommends the formation of a Council for each school, the assignment of additional responsibilities to the Parents Association, and the designation of a Coordinator for each model.

The responsibilities of the School Council for each school should include: (a) formulation of guidelines by which to assess the effectiveness of the school and its Principal in maintaining the quality of the program; (b) formulation of adaptations necessitated by local needs (such adaptations should be approved by the Coordinator responsible for all schools in that model); (c) administration of an "Operations and Improvement Fund".

The responsibilities of the school's Parents Association should be: (a) recommendation of candidates (qualified under laws regulating this position) for appointment as Principal to the District Superintendent and local school board when that position is vacant; (b) assessment of the effectiveness of the school and its Principal in maintaining the quality of the program.

The responsibilities of the Coordinator should include: (a) ensurance that the model is properly implemented at all times; (b) facilitation of the functioning of each school using that model; and (c) coordination of the activities of the various schools using the model.

4a. It is recommended that each School Council be composed of five parents of children attending the school, two persons from the community at large, two faculty members from local colleges or universities, two members of the faculty of the school, and one member of the school's administrative staff. All members of the Council should be elected to membership by actions of the Parents Association, except that the Principal may designate the member from the administrative staff, and the body of teachers may designate the two members from the school's faculty. Nominations for membership from the community must be approved by the parents, teachers, and administrative staff holding membership on the Council. The first Council should be elected before June 30, 1968. The Council should function through June 1969. By May 1 of each year, the Council for the next year should be elected and/or designated by the same procedure as the first Council, provided that at least two parents and one community member must be continued in membership for at least two years. The new Council takes office on September 1 of each year.

4b. Each Council should be allotted $45,000 as an "Operations and Improvement Fund". This fund should be used to: (a) implement any educational practice that is not prescribed in the model but that the Council feels worthy of experimentation, and (b) to provide services that will facilitate the work of the Council. Each Council should have one paid staff member to coordinate community relations and other Council activities and part-time paid secretarial assistance.

It is recommended that the following operational policies guide the functioning of Parents' Associations. In order to discharge its responsibility for quality control, the Parents Association shall hold the Principal accountable for the climate and functioning of the school. If, after due review and consultation, the Parents Association finds that the program or any member of the administrative or supervisory staff has not met these guidelines, the Parents Association should confer with the model's Coordinator and the District Superintendent. Whenever the Parents Association feels that this procedure has produced a pattern of failure to resolve specific difficulties, they may bring the issue to a central Review Panel for resolution.

4c. It is recommended that a three member central Review Panel be appointed by the Committee responsible for supervising the overall program (at present the Gordon Committee) to resolve major disagreements arising between Parents Associations or School Councils and District Boards or District Superintendents. Any of these organizations or the District Superintendent can refer a dispute to the Review Panel. However, the Panel will as a rule only consider those disputes which reflect a pattern of conflict or irresolution and appear symbolic of broader or major policy issues. The Review Panel will make its recommendation to the New York City Board of Education but only major extenuating circumstances should preclude the Board from treating the Panel's recommendation as final and binding.

5. It is recommended that the ten million dollars which have been assigned for the purposes of experimental programs in elementary education be allocated to support this program for the school year 1968-9. Resources currently being utilized in All Day Neighborhood Schools, More Effective Schools, Experimental Primary Schools, and Reduced Teacher Ratio Schools should be brought into rational integration with this additional expenditure. In operation this may mean the combination of existing programs with new program elements. In other instances it may mean the elimination of existing programs. It will certainly mean the monitoring of old and new programs in special service schools.

6. It is recommended that the cost of evaluating this broad scale experimental program be met from sources other than the designated ten million dollars. If the Board cannot make such monies available, foundation or government support should be sought.

It is recommended that a detailed plan for conducting the comparative study and evaluation of these models be contracted. This evaluation plan should reflect the several specific goals of the models and should extend over the life of the experiment. The evaluation should be initiated as soon as possible after September 15, 1968, but not later than November 1, 1968.

7. Since the implementation of this program will make additional demands on the school system for space, it is recommended that all planning for space utilization for the 1968-9 school year be reviewed. School plants

to be opened in September 1968 near special service school communities should be reexamined; no final decisions should be made concerning these schools without looking at the needs of this program.

8. Adequate administrative and financial provisions should be made for staff training at all levels:

a. At least ten days should be allotted for training; five of these should be regular work days and five paid for as extra days either on Saturday or Sunday at the convenience of staff. Participation in these training sessions is mandatory for all persons working in the project.

b. Teachers and supervisors must be trained in the procedures and techniques of the specific program to which they are assigned; they must in addition be trained to work with and utilize paraprofessionals.

c. Based upon the specific functions of paraprofessionals, training programs must be developed which will result in these staff persons having specific skills to bring to their work in addition to attitudinal readiness to complement the work of the teacher.

d. In addition to the ten formal training sessions, training must be a pervasive and continuous force in the program. Many opportunities for peer group exchange, supervision, and training should be provided under conditions which reduce threat to the status and security of staff members. The use of cluster and resource teachers is encouraged. Assistant principals should have few assignments which take their attention away from training, supervision, and improvement of instruction. Assistant principals, resource teachers, and supervisors are expected to do demonstration teaching and, where appropriate, should carry light but regular classroom teaching responsibilities.

e. The introduction of classroom managers (see Model B) will require an additional provision for training. In addition to the training periods allotted for all staff, classroom managers should have twenty days of preservice training and twenty days during the first school year.

f. Training should help prepare parents for active participation in the Parent's Association, the School Council, and in the general affairs of the school. Homes in the community might be used for these sessions; persons indigenous to the community should be developed as trainers.

PART III

MODEL A

2

MODEL A

It is the judgment of the Committee that there are various organizational structures in New York City schools which in some cases are relatively successful, in others show promise, and, if implemented in appropriate combinations, should greatly improve education in our special service schools. Although these elements are not directed at program content, it may be that they provide the environment most conducive to creative teaching. Therefore, we recommend that the following features be combined into one model and be implemented for a four year experimental period. Many of these program elements have been adopted from the More Effective Schools, the All Day Neighborhood Schools, and the Experimental Primary Schools programs. In Model A we have sought to combine the most promising features of these programs:

1. Formal education beginning at age 3
2. Extended school day: 8:00 AM - 6:00 PM
3. Reduced ratio of pupils to adults including the use of specialists to supplement work of regular classroom teachers.
4. Clustered classes to allow for group planning and team teaching
5. Flexible groupings with respect to race, age, functional levels as the dominant pattern
6. Flexibility in the use of space
7. Instructional Resources Center
8. Provision to meet the chronic and emergency needs of children with physical, emotional, and social problems

9. Summer Camp Program
10. Research, development, and training unit

1. Formal Education in School Beginning at Age 3

The Committee recommends that every effort be made to provide at least an optional half day of school beginning with the 3rd year of life and a full day of school beginning with the 4th year of life. Priority should be given to insuring continuity of school experience. This will mean that all children four years and older must be provided for before resources are utilized for three year olds.

These pre-kindergarten classes need not occupy space in public school buildings but can be located in prefabricated buildings, housing developments, community agencies, and converted commercial space. They should, however, be near enough to the residences of the families served to encourage free access and easy participation by parents and younger siblings.

The school day should include activities which bring non-working parents into the school for regular exposure to wholesome climates for learning and instructional models. Special activities should be organized to provide similar exposure for working parents; these activities may be more didactic than experiential.

Other adults and youths from the community should be drawn into the program. Such efforts should be aimed at instructing community members in child care and development, in making educational endeavors positive norms for the community, and in providing role models for the children within the school setting. Finally, additional work opportunities should be offered to community members; the use of Neighborhood Youth Corps and indigenous paraprofessionals is clearly indicated.

This program of early childhood education should be directed at:

1. Stimulating and nurturing the emotional, intellectual, physical, and social development of the child

2. Cultivating a sense of control over his self, and influence upon the environment and his future

3. Developing facility in the use of indigenous language forms as well as standard English

4. Stimulating and nurturing appreciation for inquiry, exploration, and problem solving, and

5. Cultivating a sense of enjoyment and satisfaction in self expression, social interaction, and intellectual mastery

There are several preschool curricula (see Appendix D) which may be adapted to this program. Among these are:

1. Institute of Developmental Studies
2. Integrated Day Program
3. Klaus - Gray
4. Sylvia Ashton Warner
5. Sprigle

2. Extended School Day

Provisions should be made for keeping the school open for instruction from 8:00 AM - 6:00 PM. All children are required to participate in the entire school day unless their parents can show good cause why they are unable to attend on a routine basis. Units of the basic curriculum should be distributed throughout the ten hour day; blocks of content oriented material should be interspersed with more experience and recreation oriented units. Provision must also be made to meet the nutritional needs of pupils in school for this period.

3. Staffing Pattern to Allow for Reduced Ratio of Pupils to Adults

a. One principal, five assistant principals, and one business manager. The principals should provide educational leadership for the school and the immediate community served. The principal's schedule should insure that he or she is on duty at some time of each week during each hour of the extended day. The assistant principals are responsible for training of teachers, supervision, and coordination of programs. Assistant principals should be scheduled so that at least two are on duty throughout the entire school day. The business manager should relieve the principal of all routine management tasks and should have some training in business education.

b. Clusters of three classes should be organized to allow for joint planning by staff, combined activities, and flexible grouping of staff and children.

c. Class size in kindergarten and pre-kindergarten should be fifteen. Each class should have three teachers and two teacher aides. At least one teacher aide should be a male Neighborhood Youth Corps worker.

Class size in grades one through six should be twenty-two. Each cluster of three classes should have five teachers and five teacher aides scheduled to provide appropriate coverage throughout the extended day.

d. Eight teaching specialists should be provided; this number may be adjusted for schools in which the number of teachers' preparation periods requires additional personnel.

e. Five pupil-personnel workders (suggested distribution: four guidance counselors and one psychologist) who are responsible directly to the school's principal and the coordinator of Model A schools.

f. Six teachers for junior guidance classes.

g. A health team consisting of one full-time health teacher, one doctor, one dentist, and one nurse. The positions should be negotiated for with the local health center.

h. One audio-visual technician (paraprofessional).

i. Four secretaries.

4. Clustered Classes

To provide for greater flexibility in planning learning experiences and to extend the range of instructional contacts, classes will be grouped in clusters of three (twenty-two each). Each cluster will be assigned five teachers and five teacher aides. Cluster classes should be housed in close proximity and in adjoining rooms where possible. Planning for the sixty-six children should be the joint responsibility of the five teachers. Although each class should be the special charge of one of the team, the quality of learning experiences and the development of all children in the cluster must be the responsibility of the team.

The first line of supervision and training is the team where quality control is a mutual responsibility. The team will be responsible for designating its leader. This may be a continuing or rotating responsibility. It is recommended that division of responsibility be based upon individual areas of strength, but formal departmentalization should be avoided.

5. Flexibility in Grouping

In planning the education for groups of children, the staff should be free to group children around a variety of pupil characteristics. Although there are some learning experiences that can be managed best in small homogeneous groups, the Committee recommends that every opportunity be used to maximize heterogeneous grouping.

There are social as well as pedagogical reasons for making heterogeneity a principal issue. The justifications arising out of social need have received considerable attention. The benefits of having youngsters exposed to those who differ in ability, ethnic, economic, and social characteristics need no further elaboration. In addition, evidence suggests that progress of youngsters who normally move at a slower rate is accelerated as the classroom ratio of children from more stimulating backgrounds or of higher functional levels increases.

Not only is this the result of the atmosphere created in the classroom but children of varying levels of learning can directly help each other. From as far back as the work of Maria Montessori, we have information

ERRATA

Page	Line	Correction
12	16	Insert "not" after "do."
13	24	Read "language" for "languare."
29	22	Read "consisting" for "consiting."
31	7	Read "hierarchical" for "hierachical."
42	10	Insert "from local colleges" after "community."
43	16-17	Delete "or the District Superintendent."
48	5-6	Read "three-year-olds" for "the third year of life"; read "four-year-olds" for "the fourth year of life."
52	1	Read "workers" for "workders."
61	14	Insert "twenty in grade one" following "(full day)."
72	9	Read "at three years of age" for "the third year of life."
74	8	Read "purpose" for "purposes."
86	2	Read "Parents" for "Parents'."
A-4	8	Read "occurred" for "occured."
B-7	7	Read "affects" for "effects."
E-18	9	Read "thereby" for "theeby."
F-4	10	Read "enumerated" for "innumerated."
H-5	7	Read "principles" for "principals."

All material appearing in the Appendices has been prepared by the project staff and does not represent work written or approved by the Committee.

that in heterogeneous groups older children help younger children, more able youngsters help less able youngsters, and pupils progressing at a faster rate help pupils progressing at a slower rate. Moreover, in the process of helping, the more advanced youngsters seem to consolidate their gains and often even increase their acquisition rates. Teachers are also stimulated by having a heterogeneous class. Teachers dealing with homogeneous groups are freer to use a single style or to teach to a single level. Under these circumstances, many children do not progress at optimal rates and are frequently lost in the group. Teachers dealing with heterogeneous groups are less free to assume that children have comparable backgrounds, comparable functional levels, or comparable functional rates; the teacher is encouraged to recognize that these differences in children may respond better to variant teaching styles. Hence, heterogeneous grouping tends to force greater attention to individualizing instruction to meet children's different learning needs, rates, and styles.

The Committee would like to stress that success in the utilization of flexible grouping is heavily dependent on the quality of the teaching staff. Appropriate pre- and inservice training sessions should be planned for the school's entire staff.

The maximum age spread in these groups should be 15 months.

6. Flexibility in the Use of Space

Flexibility in the use of space to accommodate groups of varying size and for varying purposes is an essential in the improvement of educational programs. To achieve this, new buildings should be planned with the requirements of such a grouping in view. The use of large multiple purpose spaces is strongly recommended, as well as the availability of many units for individual and small group work. Consideration will need to be given to remodeling older buildings to permit freer movement between existing classrooms or to combine such rooms to make larger spaces. In some situations it may be necessary to add prefabricated classrooms or to rent space in nearby buildings. The possibility of contracting with outside agencies for food services, thus freeing the cafeteria for instructional purposes, should be explored.

7. Instructional Resources Center

This resource center is a combination library, shop, audio-visual materials depository, and consultation center. The Center's resources should include information on innovative programs in elementary education, information on how best to utilize instructional packages, demonstrations of new materials developed by other teachers, schools, universities, or publishing houses. The Center should provide assistance to the teacher in developing self-designed materials and in planning particular learning experiences for individuals and groups of children. Many stock items should be available at the Center, particularly those which are not in such constant demand as to require individual supplies in each classroom. The Center should be managed by a specialist in curriculum resources and instruction who is generally available to teachers for consultation.

8. Provision to Meet the Needs of Children with Chronic or Emergency Problems

There are several categories of children whose chronic or temporary problems place special demands on the school. Among these are children with physical disabilities or illness, mental defects, mental illness, and/or behavior disorders. Many of these children can be served in existing programs of special education. However, in addition to these special facilities, many of which will not be available in the model school, there will need to be developed within the model school facilities to meet the needs of those pupils whose behavior or condition is not so serious as to require special placement. Among the facilities needed are:

a. Orientation classes designed to receive new or displaced children who require special study, temporary care, or specific orientation prior to assignment to regular or special classes:
   1. one class per school
   2. staffed by one special education teacher
   3. no permanent register

b. Junior Guidance classes, as need is determined by the principal, to serve severely disturbed children and operated under the standard procedures for these classes. However, one such class should allow for temporary assignment to or movement out of the Junior Guidance class as the pupil's adjustment may dictate.

c. Adjustment classes to which pupils may be temporarily assigned for a few hours or a few days and to receive pupils experiencing episodic disturbances of behavior which seriously interfere with the functioning of the regular classes and who are not considered likely candidates for the Junior Guidance classes:

1. one class per school
2. Staffed by one teacher and one aide supplemented by parents or the children assigned when deemed appropriate by the principal

d. Review Committee consisting of two teachers and two representatives of the Parents' Association to whom the principal may turn for an advisory opinion.in cases of controversy over placement of pupils in any of these special facilities. The decision relative to pupil assignment and placement remains with the principal.

e. These facilities will require a supporting clinical staff consisting of one clinical psychologist, as well as psychiatric and social work consultant time (five hours each per week).

9. Summer Camp Program

Following the pattern currently used in the camp program for elementary school children, a four week residential camp experience is to be provided for all children in grades 4, 5, and 6 during the months of July and August. Rotating schedules should be arranged to cover a camp season July and August. Grouping patterns should provide for age group mixing as well as ability group mixing. Three hours per day should be utilized for instruction. In the assignment of children for camp experiences, it is essential that children from different schools be sent to a single camp, thus broadening their contacts and allowing for a greater measure of ethnic integration.

10. Research, Development, and Training Unit

At least one school in which this model is used should be developed as a research, development, and training unit. It should carry special responsibility for curriculum development, evaluation, staff training, and developmental research. This unit should also include the coordinator responsible for all schools using this model. The coordinator should provide educational leadership for the group of schools involved, and advise this Committee with respect to the extent to which local adaptations are consistent with the overall design and purpose of the model.

PART III

MODEL B

MODEL B

Probably the newest and most promising recent development in elementary education is the effort at applying individually prescribed instruction on a class and school-wide basis. These efforts include diagnosis of pupils to determine rate of learning, preferred learning experiences, or personal characteristics. In the several programs under way these factors are being utilized to prescribe and/or match pupils with appropriate learning experiences. Model B is based upon some aspects of these programs and goes beyond most other programs in its use of qualitative appraisal of learning style, social behaviors, and temperamental characteristics in the design of learning experiences. The model also provides for modified classroom organization and the use of a classroom manager to free the teacher for concentrated attention to the problems of teaching and learning for individual and small groups of children.

Outline of Major Components

1. A learning diagnosis facility to provide continuing qualitative assessment and educational prescription for each child in the school

2. A resources development facility to design individualized learning programs and materials based on the specific needs of each child as prescribed by the diagnosis facility

3. A staffing pattern to provide for:

   a. One principal, four assistant principals, and one business manager. Each of the four assistant principals is responsible for supervision and training of teachers in three clusters of classes. The business manager should relieve the principal of all routine management tasks and should have some training in business education.

   b. Clusters of three classes to allow for joint planning by staff and combined activities of children.

   c. One instructional specialist and one classroom manager for each class. Class size should be fifteen in pre-kindergarten (½ day), fifteen in kindergarten (full day), and twenty-eight in grades two through six.

   d. One instructional clerk for each cluster of three classes.

   e. Nine professionals, one paraprofessional, two secretaries, and two clerks to staff the diagnosis facility. These professionals should include five school psychologists, two curriculum development specialists, one educational psychologist, one social worker. The paraprofessional should act as a community liaison.

f. Nine professionals, three paraprofessionals, two secretaries, and two clerks to staff the resources development facility. There should be a Coordinator who is a specialist in curriculum and instruction, two specialists in language arts, two specialists in reading, one specialist in social studies, one specialist in mathematics, one specialist in science, one resource specialist to administer the Resources Supply Center, one librarian, two paraprofessional library aides, two paraprofessional audio-visual technicians, and one coordinator of audio-visual instruction.

g. Six teachers for junior guidance classes.

h. A health team consisting of one full-time health teacher, one doctor, one dentist, and one nurse. The positions should be negotiated for with the local health center.

4. At least one school in which this model is used should be developed as a research, development, and training unit. It should carry special responsibility for curriculum development, evaluation, staff training, and developmental research. This unit should also include the Coordinator responsible for all schools using this model. The Coordinator should provide educational leadership for the group of schools involved and advise this Committee on the extent to which their local adaptations are consistent with the overall design and purpose of the model.

1. Diagnosis Facility

The diagnosis facility should provide a qualitative appraisal of each youngster in the school. The staff of this unit should develop a file on each child including the description and analysis of his social, intellectual, and personal characteristics. Sources of such information may be: achievement tests, standardized intelligence tests (item analyses to reflect patterns of intellectual functioning), medical history, material descriptive of child's temperament and social interaction, of his responses in new or laboratory learning situations, of those factors in his home or community that directly relate to his learning needs and style. Diagnoses should be reviewed and updated every four months.

The staff of the diagnosis facility should consist of a team having those skills and competences necessary to evaluate: (1) the functional abilities and disabilities of the child and the conditions which facilitate or inhibit their expression; (2) the conditions under which functioning is adequate as well as those in which functioning is impaired; (3) the preferential and stylistic trends in the adaptive behavior of the child; (4) the level and quality of intellectual function; (5) the level and quality of academic functipn; (6) the health and nutritional status of the child; (7) the social and environmental factors relevant to the child's academic and social development. Such a staff will usually include school psychologists and specialists in developmental learning and curriculum development.

2. Resource Development Facility

This unit is responsible for developing individualized instructional prescriptions. The staff of this unit should translate the qualitative assessments prepared by the diagnosis unit into instructional prescriptions (including guidelines where necessary) for the organization of each youngster's learning experience during the four month period. These materials may be either modifications of the standard curriculum or original designs; the materials should include small instructional units to be used by many students as well as pieces prepared for the special needs of youngsters identified by the diagnostic staff. It may be that most children will have their units modified to reflect the rate with which they master material (note Appendix for description of rate modifications developed for use in Pittsburgh, Pa. schools), while a smaller number will need specific units based on learning style as well as rate.

The staff should also assist the school council and the school's faculty in developing a materials resource center comprised of two sections: a teachers' resource supply center and a students' resource section. The former will include information on related innovative programs throughout the city and country, information on how best to utilize the instructional packages, demonstrations of new materials developed by other schools, universities, or publishing houses, and provision and assistance to the teacher for development of self-designed materials. The students' resource section will contain instructional packages, audio-visual aids, as well as the more standard library resources.

The Resource Development Facility should be staffed by curriculum development specialists experienced in organizing material for effective presentation. As opposed to a classroom teacher's skill in organizing learning environments and managing youngsters, these specialists should have skill in organizing materials. Some of these specialists should have concentrations in communicative arts and skills, whereas others should have training in one particular content area.

Staff of this unit should be in constant communication with the diagnosis faculty and should have frequent planning conferences with the instructional specialists and the classroom managers.

3. Classroom Staffing Pattern

Each class shall be assigned one instructional specialist and one classroom manager.

The instructional specialist is responsible for the application of individualized learning experiences for each youngster. Because of the various functions performed by the classroom manager, the specialist is free to concentrate on formal instructional experiences with individual children or with small groups. Whereas the manager may be handling all children in the class, the specialist will usually be moving from one child to another.

The instructional specialist and the classroom manager shall together be allotted $150/year to purchase any instructional materials for their class which are not available from the resource center.

The classroom manager is responsible for establishing and maintaining conditions which permit and encourage learning. He should be responsible for the social-psychological climate of the classroom, for classroom routines and discipline, and for managing instructional materials as well as the business affairs of the class. He should provide a sharp focus on the social dynamics of group interaction. He has the additional responsibility of planning classroom experiences with the materials development staff; his role here is to utilize his understanding of the child's background and environment to insure thatthe curriculum is appropriate for the child's needs and orientation. It is critical that the classroom manager not be used as a clerk or an aide; adequate training should help prevent this. The classroom manager should be well paid and his role professionally attractive. The position should be organized as a step on a career ladder so that with additional training and experience he might, for example, devote half-time to clinical instruction of other classroom managers and half-time to apprenticeship as an instructional specialist.

Clusters of three classes should be organized with their respective specialists and managers, plus one instructional clerk. The cluster organization should enable various modifications of team teaching, small and large regroupings, joint planning, and professional interchange of ideas and strategies. This should also simplify the scheduling of preparation periods. Each cluster should be assigned one instructional clerk for routine administrative and clerical tasks; he may perform many of the tasks traditionally assumed by the teacher aide, as well as many routines occasioned by the new individualized program - e.g., responsibility for the cluster's mobile unit containing the children's individual instructional packages. He should not be used as a personal or executive secretary for the cluster staff.

Educational Technology

Advances in educational technology are making available a variety of audio-visual and otherwise automated learning experiences which are conducive to individual study as well as enriched group instruction. The coordinating center for Model B schools should be provided with a specialist in the use of mechanical teaching media and each school should be provided with equipment additional to that regularly supplied by the school.

4. Research, Development, and Training Unit

The Research, Development, and Training Unit should develop an organic relationship to one of the college or university departments of education. Through this relationship it is expected that representatives will jointly share responsibility for the conduct of research, development, and training activities. Where appropriate, joint appointments should be made and where possible, the unit or its satellites should be used as research and training laboratories for the university. The unit and its affiliated university staff will be responsible for developing a program of continuing evaluation.

PART III

MODEL C

MODEL C

Educational problems stemming from difficulty in expressive and receptive communication have been shown to exist with high frequency in children for whom standard or formal English is a second language. Model C is primarily directed toward non-English speaking children, users of various English-based dialects, and children whose spoken and written language repertoire is limited. This model combines a heavy emphasis on communication skills and reduced pupil/teacher ratio. Major elements included in this model are:

1. Curriculum emphasizing development of language facility and communication skills

2. Formal education beginning at age 3

3. Modified classroom organization and staffing pattern to allow for reduced ratio of pupils to adults

4. Flexibility in the use of space

5. Extensive use of educational technology

6. Educational materials and study center

7. Provision to meet the chronic and emergency needs of children with physical, emotional, and social problems

8. Evening Parent Education Program

9. Summer Camp Program

10. Research, development, and training unit

1. Curriculum Emphasizing Development of Language Facility and Communication Skills

    a. development of facility in the use of indigenous language as a basis for mastery of standard English; full respect for indigenous language

    b. creation of those social-psychological situations which make language utilization imperative; enhancement of language utilization through enriched experiences

    c. stimulation and nurturance of the emotional, intellectual, physical, and social development of the child

    d. cultivation of a sense of control over one's self and influence upon the environment and one's future

    e. stimulation and nurturance of appreciation for inquiry, exploration, and problem-solving

    f. cultivation of a sense of enjoyment and satisfaction in mastery through self-expression, esthetics, social interaction, and intellectual mastery

A. There are several preschool curricula which may be adapted to this program and continued through first grade:

1. Bereiter - Engelmann
2. Institute of Developmental Studies
3. Integrated Day Program
4. Klaus - Gray
5. Sylvia Ashton-Warner
6. Sprigle

B. Second and Third Grades

The curriculum should emphasize a strong language development program accompanied by diagnostic testing, detailed recording of progress, and wide use of sequential, multi-ethnic materials. Promising programs for stimulating and enriching language development are included in the Appendix. The one program selected by the school should be supported by a strong provision for on-going teacher training and for continuous parent involvement. All aspects of the regular school curriculum should be presented.

C. Fourth to Sixth Grades

The regular curriculum should be followed, supported by continued stress on individual needs in reading. Stress should be placed on success for each child. As in the earlier grades, detailed records indicating growth in fundamentals should be kept.

2. Formal Education Beginning at Age 3

The attempt here is to provide formal learning experiences for children beginning with the third year of life, as well as improved learning opportunities in the more traditional elementary years. A full day of school (8:00 AM - 3:00 PM) should be provided for all children three years and older in the school community. The pre-kindergarten classes need not occupy space in public school buildings but can be located in housing developments, prefabricated buildings, community agencies, and converted commercial space. They should, however, be near enough to the residences of the families served to encourage free access and easy participation by parents and younger siblings.

The school day should include activities which bring non-working parents into the school for regular exposure to wholesome climates for learning and instructional models. Special activities should be organized to provide similar exposure for working parents; these activities may be more didactic than experiential. Other adults

and youths from the community should be drawn into the program. Such efforts should be aimed at instructing community members in child care and development, as well as providing role models for the children within the school setting. Finally, additional work opportunities should be offered to community members; use of Neighborhood Youth Corps and indigenous paraprofessionals is clearly indicated.

3. Modified Classroom Organization and Staffing Pattern to Allow for Reduced Ratio of Pupils to Adults

Staffing patterns and classroom organization should be modified to provide for class sizes of fifteen in pre-kindergarten, twenty in kindergarten, and twenty-two in grades one through six.

Pre-Kindergarten and Kindergarten

Three teachers and three teacher aides shall be assigned to every two classes. One family assistant shall be assigned to a cluster of two classes.

Grades 1 - 6

One teacher and one teacher aide shall be assigned to each class. In addition, there should be one resource teacher for each group of four classes and a reading specialist for every six classes. The resource teacher should also be responsible for in-service training and should carry no line authority or evaluative responsibility in relation to the teachers served. The school should have a standard component of supporting staff.

4. Flexibility in the Use of Space

Flexibility in the use of space to accommodate groups of varying size and for varying purposes is an essential in the improvement of educational programs. To achieve this, new buildings should be planned with the requirements of such a grouping in view. The use of large multiple purposes spaces is strongly recommended, as well as the availability of many units for individual and small group work. Consideration will need to be given to remodeling older buildings to permit freer movement between existing classrooms or to combine such rooms to make larger spaces. In some situations it may be necessary to add prefabricated classrooms or to rent space in nearby buildings. The possibility of contracting with outside agencies for food services, thus freeing the cafeteria for instructional purposes, should be explored.

5. Extensive Use of Educational Technology

Advances in educational technology are making available a variety of audio-visual and otherwise automated learning experiences. Many of these devices are conducize to individual study. Others provide good vehicles for enriched group instruction. The coordinating center for Model C schools should be provided with a specialist in the use of mechanical teaching media, and $25,000 should be allowed for equipment in addition to that regularly supplied for each school.

6. Educational Materials and Study Center

Centers should be established to provide specific help to parents. The center should supply materials and directions for parent-child educational work in the home. The center should also provide adolescent and young adult tutors for help in home instruction. During the school year, these youthful tutors will work primarily on weekends; during the summer they might work in the day camp program and in the homes of children who do not attend the day camp or residential camp. These centers should be administered by the school council at a cost not exceeding $25,000.

7. Provision to Meet the Chronic and Emergency Needs of Children with Physical, Emotional, and Social Problems

There are several categories of children whose chronic or temporary problems place special demands on the school. Among these are children with physical disabilities or illness, mental defects, mental illness, and/or behavior disorders. Many of these children can be served in existing programs of special education. However, in addition to these special facilities, many of which will not be available in the model school, there will need to be developed within the model school, facilities to meet the needs of those pupils whose behavior or condition is not so serious as to require special placement. Among the facilities needed are:

a. Orientation classes designed to receive new or displaced children who require special study, temporary care, or specific orientation prior to assignment to regular or special classes:

1. one class per school
2. staffed by one special education teacher
3. no permanent register

b. Junior Guidance classes, as need is determined by the principal, to serve severely disturbed children and operated under the standard procedures for these classes. However, one such class should allow for temporary assignment to or movement out of the Junior Guidance class as the pupil's adjustment may dictate.

c. Adjustment classes to which pupils may be temporarily assigned for a few hours or a few days and to receive pupils experiencing episodic disturbances of behavior which seriously interfere with the functioning of the regular classes and who are not considered likely candidates for the Junior Guidance classes:

1. one class per school
2. staffed by one teacher and one aide supplemented by parents of the children assigned when deemed appropriate by the principal

d. Review Committee consisting of two teachers and two representatives of the Parents' Association to whom the principal may turn for an advisory opinion in cases of controversy over placement of pupils in any of these special facilities. The decision relative to pupil assignment and placement remains with the principal.

e. These facilities will require a supporting clinical staff consisting of one clinical psychologist, as well as psychiatric and social work consultant time (five hours each per week).

8. Evening Parent Education Program

The Evening Parent Centers will offer a variety of child-oriented educational experiences for parents. Activities should include training for complementing and supporting the learning experiences provided by the school. Exposure to models of wholesome learning environments should be available. Video tape recordings of school day experiences should be utilized. Instruction in nutrition, child care, child focused language development should be offered, in addition to basic academic work as needed and requested by parents. Social case work consultation might also be available at the Center, but this should not displace its major emphasis as an educational facility.

9. Summer Camp Program

Following the pattern currently used in the camp program for elementary school children, a four week residential camp experience is to be provided for all children in grades 4, 5, and 6 during the months of July and August. Rotating schedules should be arranged to cover a camp season July and August. Grouping patterns should provide for age group mixing as well as ability group mixing. Three hours per day should be utilized for instruction. In the assignment of children for camp experiences, it is essential that children from different schools be sent to a single camp, thus broadening their contacts and allowing for a greater measure of ethnic integration.

10. Research, Development, and Training Unit

At least one school in which this model is used should be developed as a research, development, and training unit. It should carry special responsibility for curriculum development, evaluation, staff training, and developmental research. This unit should also include the coordinator responsible for all schools using this model. The coordinator should provide educational leadership for the group of schools involved, and advise this Committee on the extent to which local adaptations are consistent with the overall design and purpose of the model.

PART III

MODEL D

MODEL D

Despite the Committee's pronounced concern with finding new and better ways to meet the academic and social learning needs of children in special service schools, there is recognition of the fact that some existing programs and practices succeed in enabling numbers of children to reach or surpass national achievement norms and many of these fairly routine existing programs could do as well or better if they were provided help in overcoming some of the specific problems which frustrate honest effort. In addition, some spokesmen for non-school community people have expressed concern lest we concentrate on the major change or great experiment and fail to institute those small changes which might make the difference for larger numbers of children since the cost may be more reasonable than other models. Model D is designed to permit the combining of several modest in cost but potentially important innovations with ongoing programs. This model will rely heavily on concentrating in one school a number of program elements which have been used on a more limited basis throughout the city. The concern here is with testing more traditional program elements under conditions which maximize their opportunity for success. The several elements which would be included follow.

1. Greater accountability of school to parents combined with improved parent education and home-school-community liaison.

2. Primary prevention through routine early diagnosis and identification of potential problem learners and introduction of appropriate corrective educational programs.

3. Learning-related medical services.

4. Tutorial clinics and homework helper programs manned by professionals, indigenous adults, college students, volunteer workers, and slightly older pupil peers.

5. Reading resources center and extended library services.

6. Increased use of teaching specialists.

7. Provision to meet the needs of children with chronic or emergency problems.

8. Research, development, and training unit.

1. Greater Accountability of School to Parents Combined With Improved Parent Education and Home-School-Community Liaison

The provisions for developing School Councils will go far in meeting this requirement. In addition, the model should include parent education opportunities ranging from information about the school, training in home based skills in facilitating learning, literacy, nutrition, and training. To provide for greater and easier communication between home, school, and community, staff positions should be added for one professional and at least three sub-professional assistants concerned with communication and relations between these three and to help parents with specific information or how-you-do-it problems related to pupil school adjustment, school participation, and home based support for learning.

2. Primary Prevention through Routine Early Diagnosis and Identification of Potential Problem Learners and Introduction of Appropriate Corrective Educational Programs

The most economical and humane approach to learning disability and educational underdevelopment is through prevention. Provision must be made for the early identification and diagnosis of potential problem learners and the development of appropriate corrective and supportive educational programs. To do this the school will need to maintain a psycho-educational appraisal facility equipped to provide guidance to classroom teachers in the conduct of observational and appraisal procedures, in the maintenance of necessary records, and in the use of this information to better understand and plan for children served. The staff of the facility should consist of:

2	school (educational)psychologists
1	specialist in learning disabilities
1	school social worker
1/2	clinical psychologist
1/5	pediatrician

Identification and diagnosis are only the initial steps. Classroom teachers must be helped to use this information in the day to day learning experiences of each child. The school should provide four guidance counselors (pupil development specialists) who will: (1) interpret diagnostic and personal information, (2) help the teacher relate this information in appropriate ways to academic and social learning, (3) facilitate communication between administration and teachers, administration and home, teachers and parents, teachers and pupils, and pupils and pupils, (4) plan with teachers, administrators, and parents those environmental, administrative, and personal management manipulations necessary to optimize learning and developmental conditions for each child.

3. Learning-Related Medical Services

The relatively high incidence of acute and chronic medical conditions and impaired nutritional status make it important that the school be prepared to serve children in whom these conditions interfere with learning. It is impractical for the school to maintain a facility elaborate enough to treat the wide variety of conditions which may be identified but a referral facility is necessary. Referral, however, must be combined with resources for follow-through to insure that service is secured even if the service must be paid for by the school. The referral facility should be staffed by one public health nurse, one medical social worker, one health care aide, 1/2 nutritionist, and 1/5 pediatrician.

4. Tutorial Clinics and Homework Helper Programs

A program which incorporates many of the elements identified here has been developed by Mobilization for Youth (see Appendix G). Programs utilizing college students and volunteer workers are commonplace. In addition to Mobilization for Youth, the utilization of peers as tutors was reflected in the work of Maria Montissori around the turn of the century, was introduced in Flint Michigan schools several years ago, and has since been introduced in a variety of in school and out of school settings.

5. Reading Resources Center and Extended Library Services

The center should supply materials and directions for parent-child educational work in the home. The center should also provide adolescent and young adult tutors for help in home instruction. During the school year, these youthful tutors would work primarily on weekends; during the summer they might work in the day camp program but also in the homes of children whose parents do not avail themselves of the day camp and residential camp experience. The school library should be open from 8 AM to 6 PM.

6. Increased Use of Teaching Specialists

The following specialists should be provided in each school using this model:

1 Health education enrichment position filled by licensed teacher
1 Art enrichment position filled by licensed personnel
1 Field trip and cultural enrichment coordinator
1 Mathematics teaching specialist
1 Audio-visual aide technician
1 Corrective reading specialist
1 Additional librarian
2 Additional library aides

7. Provision to Meet the Needs of Children with Chronic or Emergency Problems

There are several categories of children whose chronic or temporary problems place special demands on the school. Among these are children with physical disabilities or illness, mental defects, mental illness, and/or behavior disorders. Many of these children can be served in existing programs of special education. However, in addition to these special facilities, many of which will not be available in the model school, there will need to be developed within the model school facilities to meet the needs of those pupils whose behavior or condition is not so serious as to require special placement. Among the facilities needed are:

a. Orientation classes designed to receive new or displaced children who require special study, temporary care, or specific orientation prior to assignment to regular or special classes:

   1. one class per school
   2. staffed by one special education teacher
   3. no permanent register

b. Junior Guidance classes, as need is determined by the principal, to serve severely disturbed children and operated under the standard procedures for these classes. However, one such class should allow for temporary assignment to or movement out of the Junior Guidance class as the pupil's adjustment may dictate.

c. Adjustment classes to which pupils may be temporarily assigned for a few hours or a few days and to receive pupils experiencing episodic disturbances of behavior which seriously interfere with the functioning of the regular classes and who are not considered likely candidates for the Junior Guidance classes:

   1. one class per school
   2. Staffed by one teacher and one aide supplemented by parents or the children assigned when deemed appropriate by the principal

d. Review Committee consisting of two teachers and two representatives of the Parents' Association to whom the principal may turn for an advisory opinion in cases of controversy over placement of pupils in any of these special facilities. The decision relative to pupil assignment and placement remains with the principal.

e. These facilities will require a supporting clinical staff consisting of one clinical psychologist, as well as psychiatric and social work consultant time (five hours each per week).

8. Research, Development, and Training Unit

At least one school in which this model is used should be developed as a research, development, and training unit. It should carry special responsibility for curriculum development, evaluation, staff training, and developmental research. This unit should also include the Coordinator responsible for all schools using this model. The Coordinator should provide educational leadership for the group of schools involved, and advise this Committee with respect to the extent to which local adaptations are consistent with the overall design and purpose of the model chosen.

APPENDIX A

A Review of An Assessment of the All Day Neighborhood School Program for the Culturally Deprived -- Cooperative Research Project #1527

Patricia Sexton & others

The All Day Neighborhood School Program, initiated in 1936, operated in fourteen schools serving disadvantaged neighborhoods in New York City in 1964. Seven teachers are normally assigned to each ADNS program, one as an administrator and one for each grade -- grades one through six. From 11:00 AM - 3:00 PM, the ADNS teachers work with classrooms or smaller groups of children; between 3:00 PM - 5:00 PM, the ADNS teachers conduct a "club" which stresses social, artistic, and recreational development.

Between September 1962 and December 1964, a study of the ADNS program was sponsored jointly by the U. S. Office of Education and the New York State Board of Education, and administered by New York University. Third and fifth grade children from three experimental and three control schools were selected -- two predominantly Negro, two predominantly Puerto Rican, and two schools with mixed enrollments. Experimental and control group children were theoretically matched for socio-economic characteristics as well as ethnic background.

Comparisons were made between experimental ADNS children and control children on a number of academic, personal and social development tests, ratings by teachers, and observations of classroom behavior. School records were investigated and parents and children were interviewed.

Out of the many variables measured, ADNS children rated significantly better than control children on verbal skills (as judged by written themes) and on the following aspects of social adjustment: various instruments corroborated the fact that they related better to their work, to their peers and to the teacher (observations, interviews, teacher ratings, and Ohio Social Acceptance Scale). No significant differences were found between the two groups in report card marks, scholastic aptitude (Otis Mental Ability Test) or reading achievement (Metropolitan reading test). Level of aspiration, curiosity, and responsiveness (Picture Test), personal and social adjustment (California Test of Personality) and most variables of classroom conduct (OScAR) showed no significant differences. Control children rated higher than experimental children on social responsibility (including vandalism records), teacher ratings of aggressive behavior, and the OScAR classroom conduct measure of pupil destruction.

ADNS teachers were generally enthusiastic about the program and non-ADNS teachers in ADNS schools appeared more optimistic about the ability of their children than teachers in control schools. Parents of ADNS children tended to feel that the school helped their children stay out of trouble, and that the club helped their children. Interviews with parent group leaders elicited larger and more active parent groups in the experimental schools.

Critique of the Report

Three ADNS programs were selected for intensive study. Criteria for selection included (a) required ethnic proportion, i. e. one predominantly Negro, one predominantly Puerto Rican, and one mixed: (b) the schools were supposed to represent ADNS operating under acceptable conditions; (c) ADNS programs should not be accompanied by a Higher Horizons Program; (d) the ADNS program should be "typical". Three control schools were selected by the district assistant superintendent, and were intended to be similar in "qualities, population, and services".

Several comments should be made about a design in which only three schools serve as the experimental population. In the first place, the sampling error is very high: the large number of students selected from within the school does not alter the fact that the number of subjects of this study was really six. Such sample sizes almost always lead to ambiguous results. Second, the comparison schools should have been selected by the research staff. The Sexton research team is likely to have had at least equal expertise and less bias than the district assistant superintendent in selecting the appropriate controls. Third, the method of selection led to a higher proportion of Puerto Ricans in the control schools and a higher number of Negroes and whites in the experimental schools. These differences are about ten per cent of the total. Further mismatches occured in enrollments, with control schools having nearly two hundred students per school more than the experimental schools, even though the experimental schools had a greater average capacity.

While differences in relevant variables occur in any method of selection, these tend to be unbiased if random procedures are used. Furthermore, if matching is necessary, a larger number of schools can eliminate many of the large differences in relevant variables.

A further difficulty in interpretation was introduced by the initiation of the after school study center program in all three of the control schools and one of the experimental schools. Such centers had partially overlapping goals with ADNS and their possible influences would tend to render comparisons in academic and other behavioral variables meaningless.

From the total enrollment of the third and sixth grades in the experimental and control schools, 256 children were selected for interviewing and more intensive study. Several criteria were used for matching, including ethnicity, age, sex, and reading score.

Although the overall matched samples were quite similar, the students used for reading achievement analyses were quite different (see Table 5 and 6) on their pretest scores. This lack of matching is probably due to the inherent differences in the school populations.

Assessment of Results

The main conclusion that can be drawn from this study is that the effects of the ADNS program are not distinguishable from the effects of the control schools' program. From literally hundreds of comparisons, few behavioral differences were noted. Inappropriate as the criterion may be, reading score changes were very minimal (.78 grade equivalent units over "two academic years"). This is hardly encouraging even in schools where reading levels are severely depressed by language problems (40% of the sample group was Puerto Rican).

The analysis of programs which require heavy expenditures of time, money, and personnel is obviously mandatory. However, these programs should have goals specific enough that observations of relevant behaviors can be made objectively. This particular analysis used instrumentation that required 41 pages for documentation -- in addition to the standardized tests. It is obvious that the observations covered nearly all relevant behavior of teachers, parents, and students. The design of the study, however, made these comparisons almost useless.

APPENDIX B

A Review of the Title I Evaluation, Expansion of the More Effective Schools Program

David Fox
Center for Urban Education

The More Effective Schools program covers the years from pre-kindergarten through grade six. The main elements of MES include reduced class size, clustered classes, additional teaching specialists, and heterogeneous grouping.

The average class size in MES ranged from 28.3 in 1963 to 20.1 in 1966; the pupil-teacher ratio changed from 25.0 in 1963 to 12.3 in 1966 (the corresponding changes in elementary schools were 29.5 to 27.7 and 26.1 to 21.9). The ethnic composition of MES changed somewhat during the 1964-1966 period: increases of 6.5 per cent in Negro and Puerto Rican students were noted in the 1964 MES, while in the 1965 MES the Puerto Rican proportion increased by 9.2 per cent and the proportion of Negro students decreased by 9.2%.

The per pupil cost for instruction during the 1966-1967 school year for the two sets of MES was $932.00 for the 1965 MES and $898.00 for the 1964 MES. The corresponding costs in the ten comparison schools was $485.00.

The Fox evaluation is an analysis of the effects of the introduction of the More Effective Schools program into twenty-one New York City schools. The report contains a series of observations which occasionally favor the MES concept and occasionally favor the opposite but most frequently operate to mask findings about possible beneficial effects of the MES program.

Using observer ratings, the assessment focuses on the following characteristics: verbal fluency of children, children's interest, participation of children in lessons, children's volunteering in class, children's question raising, teacher performance, teacher traits, school attractiveness, and school climate.

Rating scales, questionnaires, and objective tests were used to obtain data on:

a. children's attitudes toward class and school (perceptions of students, personnel, and faculties)

b. achievement level and changes in arithmetic and reading

c. teachers' and administrators' responses to various elements of the MES program

d. teachers' and principals' perceptions of student performance

Fox's general conclusion is that while ratings of interest, climate, and enthusiasm favor the MES schools tested, achievement in reading and mathematics do not differentiate the MES schools from their controls. Thus, although both principals and teaching staff detected favorable changes in students attitudes and achievements, this improvement was not shown on standardized achievement tests. The CUE evaluation is critical of the curriculum used in MES schools. Observers rated the lesson quality as competent but not specifically designed for the smaller classes with their opportunities for more individualized programs.

The following are the specific findings of the Fox evaluation team:

A. Ratings of verbal fluency, participation in class, interest, and enthusiasm, volunteering in class do not distinguish the MES from comparison schools. Spontaneous questioning in class was more prevalent in MES schools.

B. All sample children's perceptions of their class and school were moderately positive. The MES students had slightly more positive responses about their classes than comparison school students but less positive responses than students from both the "sending" and the open enrollment schools.

C. Although second grade children's March 1967 scores on the Metropolitan Achievement Test, Arithmetic Problem Solving, and Concepts Subtests were slightly above national norms, they showed increasing retardation from grades three through six. From fall 1964 to spring 1966 there was a decrease in amount of "retardation" i.e., a gain of Grade Equivalent units above the number of school months during the testing interval. However, there was some slippage in spring 1967 to near the "retardation" of 1964. Thus, an "initial favorable impact" was not maintained. No control school comparisons are presented.

D. In the period from fall 1966 to spring 1967, the MES students achieved higher gains than the comparison students, most of the gains exceeding those expected over the six month period. The relative superiority from grade two to grade six was .2, .2, .1, .4, .1. In eight pairings of MES and control schools, the MES school achieved a higher median gain in 22 of 32 possible comparisons. When spring to fall testing periods are considered during 1965 and 1966, the students gained somewhat in 1965, but lost in 1966 for all three levels considered. This fall to spring progress was reversed somewhat during the non-school summer period.

E. The overall school median reading scores in the MES schools during the 1964 to 1966 period for second, third, fourth, fifth, and sixth grade classes showed no consistent progress or decline.

F. Between April 1967 and June 1967, 40 to 59 percent of the classes tested at each grade either declined or failed to show any gains. Fox reads this to mean that the spring and fall declines reported in another context occur during the school year.

G. The teachers in MES schools were rated higher than comparison teachers on quality of instruction, overall planning and organization, effective use of aides, relating curriculum to child's experience, and maintenance of discipline. However, a large percentage of teachers' lessons were rated as showing no adaptation to reduced class size and most observers felt that a larger class size would not have affected the quality of the daily lessons.

H. On most traits rated by the Ryans Teacher Behavior Record the teachers in the MES schools were rated more highly than those in comparison schools. However, both groups were rated lower than teachers in open enrollment sending schools.

I. The ratings of school climate, attractiveness of classrooms, attitude of administrative staff, teaching and supplementary staff, worth of school day were higher for the MES schools than for the controls. Most observers felt mildly positive to enthusiastic about sending their own child to the MES school they had visited.

J. The ratings of teachers, children, and lesson quality were positive in the early childhood grades, but observers were slightly more critical of the adaptation of the curriculum.

K. Most teachers and principals felt positively about the MES program and thought it should be expanded with some modification. Most felt that the program had been implemented to a considerable degree. The administrative and teaching staff noted changes in pupil attitudes toward learning and school and increased achievement in reading and mathematics. Smaller class size and availability of specialists were rated as the most significant feature of the MES program. The basic problems of the MES schools were alleged to be staff functioning and selection and the use of heterogeneous grouping.

Critique of Evaluation

I. The ratings of the General School Report and the Individual Lesson Observation Report should have been subjected to more stringent reliability checks than "percentage of agreement." In fact, the agreement criterion had to be enlarged to "within one point." When agreement percentages of 80 - 90% are observed under conditions in which three scale points are utilized, they become less convincing. It can be demonstrated that if other observers used the same categories as those used by the raters in this study, and randomly assigned their ratings in the same categories, agreement percentages under their criterion would be above 80% in some cases and above 60% in nearly all of them.

This methodological weakness directly effects the findings on all questions involving ratings by masking differences to such a degree that they appear to be statistically small. On assessments of children's functioning (pp. 32-35), for example, four of the five differences between MES and control schools were considered statistically non-significant and yet four of five clearly showed fairly large differences in ratings favoring the MES school children.

II. The main source of information from teachers came from those who returned the questionnaire (32.0%) or indicated that they were willing to be interviewed (23.0%). This bias probably operates to give a more favorable impression on the MES schools than actually existed. A random sample of teachers could easily have been obtained, thus eliminating biases.

III. Because observers obviously could not help knowing which type of classrooms they were rating, all observational evidence becomes inevitably biased.

IV. Items measured are not always relevant to the objectives of the MES concept. Ratings of school lunches, fighting in school and friendliness of principal, and attractiveness of buildings are interesting but not the direct outgrowths of the MES concept. More items should have focused on special services and materials which were being supplied under the MES plan.

V. The finding that students with good attendance records at MES schools had higher achievement records than students with poorer attendance records is open to question because of other factors relating to these categories. E. g., the new arrivals at MES schools tended to be Puerto Rican and these students comprised much of the partial attendance category, whereas the non-Negro, non-Puerto Rican students comprised a large share of the unbroken attendance group.

VI. The students who were tested at the various points in the program do not seem to be the same students. The well-known school changes which occur in the New York City schools should have been investigated. The evaluation team should have studied only those students on whom complete testing data was available. The variation in sample sizes from year to year cloud the issue of achievement.

VII. Relevant background information is not included in the evaluation report. E. g., there is no information on the ethnic composition of comparison schools, ratings on the early childhood program provide no comparison with other programs, and the nature of the materials and new teachers is not specified.

VIII. Several conclusions of the study seem unwarranted by the data presented. E. g., while the April to June test changes are not all positive, many more classes had positive changes than had negative changes; this is in contrast to Fox's conclusion that the spring-fall decline "sets in" before the summer. In addition, while the analysis of reading achievement leads the evaluation team to the conclusion that MES had minimal effects on reading scores, the most vital comparison is not with the test norm group but with the control school students. These comparisons are powerful evidence of a beneficial aspect of MES, even though the MES students became increasingly more "retarded" in reading. Confusion about reading scores lies partially in the type of analysis used in Tables 8 and 13. In Table 8, the students are not the same for all comparisons; the N's are drastically reduced on 1967 testing. Table 13 does not account for the increased proportions of Puerto Rican students in the MES schools.

The study suffers from the unwillingness of the Board to allow researchers to begin their evaluation before a program is instituted. The report, however, suffers equally from the inclusion of irrelevant data, poor research instruments, biases of observation by both teachers and researchers, and a great lack of relevant information. No assessment was made of exactly how the increased personnel and materials were used. The research report contains a statistical summary of per-pupil costs, but this in no way enlightens the reader about who the new personnel were and what new materials were included in the school program.

A cautious conclusion from a reevaluation of the Fox CUE report is that MES was probably somewhat more beneficial than the study detected, particularly in its effects on academic accomplishment. It is obviously very difficult to extract the essence of MES from this report; however, the lowered class size appears to be the most identifiable outcome of the MES concept.

APPENDIX C

A Review of Measuring Pupil Growth in Reading in the More Effective Schools

George Forlano and
Jack Abramson

This report is based on the same data used by the Center for Urban Education in their evaluation of MES. The period covered by this study was October 1965 to April 1967. The basic difference between this analysis and the Fox report is the attempt of the former to control for ethnic composition and "special service school factors."

A. Sample

In the first analysis, the pupils were divided into four groups. The first group had been enrolled in "old" MES schools for three years, the second group had been enrolled in "old" MES schools for two years, the third had been enrolled in control schools for two years, and the fourth had been enrolled in "new" MES schools for about two years.

B. Results

1. Group matching of control schools with ten old MES schools reduced the control group to six schools. The researchers do not indicate the basis of matching or the size of the

samples involved. The combined MES schools gained from .1 to .3 more grade equivalent units in all grades than the control schools on the Metropolitan Reading Test. Apparently the three year MES pupils did somewhat better on April 1967 tests than the two year MES pupils; the amount of superiority is not indicated.

2. Grade levels of 3, 4, and 5 of individual schools were paired on the "ethnic factor." This comparison yielded six pairings for "old" MES schools and three pairings for "new" MES schools. In the six possible grade level comparisons, only the fourth grade level of the old MES pairings did not favor the MES schools. In all other comparisons, the differences in grade equivalent units were .2 to .3.

3. The Special Service control factor reduced the possible comparisons to four pairings of "old" MES schools and four controls. The average gain of MES over controls was .4 in third, 0 in fourth, and .5 in the fifth grade. In two comparisons with two new MES and control schools, matched on the same factors, the authors report similar "positive trends."

In general, the test results in April 1967 showed a "reduction in reading retardation" from October 1965. This means that gains for most comparisons were greater than 1.6 grade equivalent units (the number of school years elapsing between initial and final test).

C. Critique

The Forlano - Abramson report is based on a refinement of the data presented in the CUE report and probably more accurately estimates the effect of the "more effective" concept as it was implemented in the New York City schools. The report, however, is not very persuasive because basis for its matching is not made explicit and sample sizes are not presented. Other relevant factors such as socio-economic level and age are not controlled automatically even though "ethnic" factors are a step in the right direction. It is clear that if the Board really wishes to examine the overall MES notion, it should introduce it more experimentally. This would greatly expand the usefulness of these evaluations.

APPENDIX D

PRESCHOOL PROGRAMS

1. Ashton-Warner
2. Bereiter - Engelmann
3. Deutsch
4. The Integrated Day in English Infant Schools
5. Klaus - Gray
6. Sprigle

1. **Ashton-Warner**

The approach used by Sylvia Ashton-Warner is based on helping the child to exhibit and understand his most important emotions, to use both his destructive and constructive energies creatively and on developing the teacher's role as one who draws out each child's personality and creativity by listening to the child, watching, and waiting.

The program includes "Key Vocabulary," "creative writing," "organic discussion," creative dancing, and "Golden Section" (nature and number).

The "Key Vocabulary," used in reading, writing, and discussion, is a series of different words for different children. The "Key Vocabulary" is those words in which the child is most interested and which have the most intense meaning for him. Although these words are selected by the child, the teacher may help to draw them out of the child. The teacher writes each word on a large durable card while the child watches and repeats the word. The child then takes the card and traces the characters with his finger. Each child gets a new word every day. The children collect their cards every morning, choose a partner, and sit together and hear each other, their own and the other's words. If the vocabulary of any child is completely inaccessible, he will begin with the general Key Vocabulary. This latter is "common to any child in any race, a set of words bound up with security that experiments, and later on their creative writing, show to be organically associated with the inner world... the Key Vocabulary centers around the two main instincts, fear and sex."

Creative writing follows on from the Key Vocabulary. Whereas the Key Vocabulary is a one-word caption, creative writing is a sentence-or story-length caption. The creative writing of five year olds usually begins with their attempt to write their own key words. The children always write about whatever they want to and in their own language. It is stressed that the teacher should not judge what the child produces because the child's work is an outgrowth of his internal emotions.

Reference:

Ashton-Warner, Sylvia. Teacher. New York, N.Y., Bantam Books, 1963.

2. Bereiter - Engelmann

The emphasis of the Bereiter - Engelmann program is on academic learning through direct verbal instruction. The program is based on the premises that:(a) in order for the disadvantaged child to catch up with the more privileged child, he must learn at a greatly accelerated rate rather than at a rate equal to that of the more privileged child, (b) classroom time should not be spent on dealing with social emotional problems as they are more easily attacked elsewhere and may lessen as the child sees his own academic successes.

The program concentrates on language development, and in particular, the acquisition of grammatical statement patterns and a grasp of the logical organization behind these patterns. The means by which these skills are taught are small group sessions in which the teacher emphasizes intensive pattern drills, rhetorical statements, and precise pronunciation.

For information on details and ongoing refinements:

Dr. Carl Bereiter
Ontario Institute for Studies in Education
102 Bloor Street West
Toronto 5, Ontario, Canada

Mr. Siegfried Engelmann
Institute for Exceptional Children
University of Illinois
Urbana, Illinois

Teaching Disadvantaged Children in the Preschool. By Carl Bereiter and Siegfried Engelmann. Prentice Hall, 1966.

3. The programs being developed by Dr. Martin Deutsch and the staff of the Institute for Developmental Studies are directed toward children in pre-kindergarten through grade three. The Institute's goal is to provide basic linguistic and conceptual skills essential to school learning. The programs emphasize language and verbal behavior, visual and auditory discrimination, as well as development of motivation and positive self-concepts.

Special materials and auto-instructional techniques (such as the Letter Form Board, the Language Lotto, and the Language Master) have been designed; Montessori equipment has been adapted for use in stimulation of auditory and semantic differentiation. Mirrors and photographs are used to assist in the development of the child's sense of identity. Concentration is on those tasks which a child cannot do and the identification of skills requisite for performance of those tasks taken for granted with middle class children. To insure the continuous adaptation of materials and to provide training for staff, curriculum specialists are assigned to work at the classroom level.

For further information or visits to demonstration classes in New York City:

Institute for Developmental Studies
New York University
School of Education
Washington Square
New York, New York

4. The Integrated Day in English Infant Schools

The Integrated Day is designed to provide a school experience in which meaningful educational decisions are made by the children and all work is relevant to the children's lives. The Integrated Day program has no scheduled class lessons or time periods for specific activities. Each child chooses the activity he wishes to be involved in and the length of time he wishes to devote to it. The classroom is subdivided into specially-equipped working areas. Normally, one area is associated with science and mathematics, another with reading and the language arts, a third with work in the visual arts, and a fourth serves as a general purpose area. In addition, certain classrooms leave a space devoted to programmed learning or other special purposes.

Reading and writing are both taught in the infant school but are done on an individual basis. Children are given letter and word cards, primers, story books, and reference books. They read to each other and to the teacher, keep diaries and write stories of their own. There are directions to follow, names to learn, and events to describe. Detailed records are kept by the children and the teachers.

References:

Yeomans, E. Education for Initiative and Responsibility. National Association of Independent Schools, Boston, Mass., 1967.

Sealey, L.G.W. Looking Back on Leicestershire. ESI Quarterly Report, Watertown, Mass., 1966.

5. Klaus - Gray

The program begun by Drs. Rupert Klaus and Susan Gray and continued by DARCEE (the Demonstration and Research Center in Early Education, George Peabody College) concentrates on cognitive development while also combating social and psychological deficiencies. The DARCEE program attempts to take advantage of the child's own motivational patterns and then to move toward motivational patterns more in keeping with those associated with school success. The basic elements of DARCEE include:

1. A sequenced pattern of reinforcement moving from the tangible and verbal to intangible and intrinsic;
2. Low ratio of children to adults to allow for individualized types of reinforcement and a large amount of verbal instruction;
3. Involvement of mothers in observation, teaching, and training for home activities with her child;
4. Use of male teachers as role models.

The key focus of the curriculum is on language development, visual and auditory discrimination. Materials are based on the identification of each skill and the activities appropriate for four stages of development: matching, recognition, identification, and reproduction.

For further information:

Susan W. Gray
DARCEE
Box 151
Peabody College
Nashville, Tennessee 37203

6. Sprigle

The program developed by Dr. Herbert Sprigle at the Learning to Learn School in Jacksonville, Florida is based on the premise that cognitive growth and development proceed in an orderly sequence from motor to perceptual to symbolic aspects of functioning. The three basic aims of the program are to help the child learn to learn, to expose the child to a curriculum based on a continuity of learning experience and developmental tasks, and to provide the tools and techniques with which to stimulate movement from one phase of development into another.

The guiding purpose behind the curriculum is the preparation of the child not for first grade but for learning. The curriculum is built on a series of developmental tasks emphasizing manipulating, organizing, classifying, and ordering things that lead to internalized thought and effective verbal expression. The planned sequence of tasks are designed to move the child from dependency on actual manipulation of concrete objects to the point where having internalized many relationships, he can manipulate without the presence of concrete materials. The materials are planned to be flexible enough for use with children learning at varying rates. Most of the tasks are designed as games; each activity builds upon the vocabulary and experience of the previous activities. Classes are oriented toward giving the child an opportunity to try things out on his own.

The teacher's main function is to pose problems for the children, ask questions, and stimulate interest and curiosity. Two teachers and two classroom areas are necessary. One room must be large enough to accommodate 24 children engaged in a variety of activities. A smaller room is used by one teacher and four children for short sessions devoted to planned sequential activities.

For further information:

Herbert A Sprigle
Learning to Learn School, Inc.
1936 San Marco Boulevard
Jacksonville, Florida 32207

APPENDIX E

INDIVIDUALIZED INSTRUCTION

1. PLAN (Program for Learning in Accordance with Needs) /
   AIR (American Institutes for Research)

2. DULUTH (Minnesota Public School Program)

3. LRDC (Learning Research and Development Center) /
   IPI (Individually Prescribed Instruction)

4. UCLA (University of California, Los Angeles) /
   UES (University Elementary School)

APPENDIX E

INDIVIDUALIZED INSTRUCTION

Recognition of the importance of making instruction relevant to the special abilities and needs of individual pupils has been a basic concern of the American educational system from its inception. This concern has resulted in a wide variety of structural patterns and services, ranging from specialized vocational schools, school-wide track or ability systems and homogeneous class groupings to provision of separate classes for the educably mentally retarded, the slow student, and the intellectually gifted child. All of these have focused on bringing together a group of pupils with common goals or abilities so that the instructor may treat it as a more or less homogeneous entity. This group approach is in contrast to the most recent attempts to make educational practices more relevant to individual learners. These latter experiments concentrate on treating the needs and abilities of pupils on an individual basis. Curriculum material is designed and offered according to the individual's learning rate or style rather than to the group's vocational goals, age level, mean achievement, or suspected intellectual ability. Most work is carried out by each pupil independently with a minimum of teacher direction.

Movement toward complete individualization of instruction has taken numerous forms. The following pages present outlines of four programs which are being operated in public school systems but are continually being refined and improved. Each program concentrates on finding solutions to some of the aspects of individualized instruction. All four programs, however, share an emphasis on student directed learning and on developing student autonomy and initiative.

Four specific programs will be discussed in the following pages:

1) PLAN (Program for Learning in Accordance with Needs) / AIR (American Institutes for Research)
2) DULUTH, Minnesota Public School Program
3) LRDC (Learning Research and Development Center) / IPI (Individually Prescribed Instruction)
4) UCLA (University of California, Los Angeles) / UES (University Elementary School)

PLAN

The "Program for Learning in Accordance with Needs" (PLAN) was initially put into operation in twelve public school systems in September, 1967. PLAN was developed by the American Institutes for Research in cooperation with the Westinghouse Learning Corporation, teachers from the participating schools, and university-based consultants. During the 1967-68 school year, PLAN was implemented in grades 1, 5, and 9; the program was expanded in 1968-69 to include grades 2, 6, and 10. Expansion will continue annually so that the program will cover grades 1-12 by 1970. Preliminary estimates predict that local school systems will be able to operate the program at a total cost of $10 - $20 per student.

The basic aim of PLAN is to make available to pupils a wide variety of educational goals, as well as alternate means of reaching any one objective. Each student not only has his own individual curriculum but also participates in the selection of that curriculum. In addition to purely cognitive concerns, PLAN's goals for pupil personal development include:

1) learning about educational and occupational opportunities;

2) formulation of personal values and evaluation of personal potential;

3) learning to make responsible decisions.

The key components of PLAN are:

I teacher diagnosis of individual children

II development of specially designed teaching-learning units

III utilization of a computer for processing, storage, and retrieval of curriculum and pupil information

IV continuous evaluation of individual children's progress and of effectiveness of curriculum materials

I The teacher and each child together estimate the child's present knowledge, define his goals, and make tentative plans for specific educational objectives.

II The teacher and each student together select the teaching-learning unit (TLU) with which the student will begin. Each TLU represents roughly two weeks work. Each TLU contains a statement of the behavioral objectives to be attained by the student and directs him to a variety of published, learning materials. The TLU also provides suggestions to the teacher as to specific points to check in the child's progress, possible difficulties, and suggestions for handling specific problems. The responsibility for developing TLUs in English, Mathematics, Science, and Social Studies is shared by the American Institutes for Research and representative teachers from participating schools. The TLUs are, in most cases, based on standard curriculum materials.

III The computer serving all schools is located at the American Institutes for Research headquarters. The computer stores detailed information on each student's special aptitudes, patterns of learning, interests, and background, as well as the skills and knowledge he has acquired prior to reaching any given decision point. The computer also stores all TLUs indexed in terms of what each pupil is expected to learn, what the prerequisites are, and for what other type of student and situation the TLU is especially well-suited. At each stage the computer presents to the pupil two or three TLUs which appear best suited to the pupil's learning style, special aptitudes, and interests. In order to increase self-confidence and motivation, children are assigned only those objectives which they can reasonably achieve. The computer also acts as a recording device. At the end of the school day, each pupil can give his teacher three kinds of IBM cards to be placed in the computer terminal: a card recording his performance on a test, a card requesting guidance, or a card reporting his TLU position in the particular subject area. The computer scores the test performance cards automatically and presents the results to the pupil the following day; it uses the records of the pupil's past learning and test results as a basis on which to recommend new learning tasks.

IV At appropriate times, placement and survey tests are given to check retention and status on both short and long-term objectives. The computer is also used to help identify ineffective materials and methods.

School systems participating in PLAN:

California - Archdiocese of San Francisco, Tremont Unified School District, San Carlos Elementary School District, San Jose Unified School District, Santa Clara Unified School District, Sequoia Union High School District, Union Elementary School District, Houghson High School District.

Massachusetts - Quincy Public School District

New York - Hicksville Public School District

Pennsylvania - Bethel Park School District, Penn-Trafford School District, Pittsburgh Public School District

West Virginia - Wood County Schools

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5. Hawkridge, David G. "Project Plan: Individualizing Instruction with the Computer." American Institutes for Research, Palo Alto, Calif.
6. "TALENT + PLAN = A NEW HUMANISM," Greater Pittsburgh Magazine, September 1967.

DUTLUTH

Individualized instruction, as practiced in two Duluth, Minnesota public elementary schools, emphasizes: I delineation of instructional objectives; II student decision-making concerning choice of subject matter and budgeting of time; and III learning materials adapted to complement various pupil learning styles and rates.

(1) Each pupil is encouraged to budget his own time, organize his own learning, and operate his own equipment. Each pupil selects the subject area he wants to work in and decides how long to continue in that area. Although pupils are free to change subject areas at any time, they are encouraged to develop a sense of obligation to work in all of the curriculum areas. Children are always free to ask for assistance from peers or teachers. The teacher's role is seen not as an "educational broadcaster" but as an "academic trouble-shooter."

(2) The Duluth program stresses the importance of delineating instructional objectives at the beginning of each unit. An instructional objective should say what a student who has mastered the objective will be able to do, under what conditions he will be able to do it, and to what extent he will be able to do it. Such a delineation of objectives allows for the design of learning experiences appropriate for various learner styles and rates and permits the assessment of individual pupil progress.

(3) A major goal of the program is to make it possible for students to learn different content by different methods. Various materials

are prepared for use in the achievement of any one skill; thus pupils are also given the choice of many means for reaching the same end. Some of these materials are created by the teacher, others are adaptations or combinations of existing published materials. All teachers are required to participate in a weekly session during which instructional materials are designed and adapted. Skills within each subject area are placed on a continuum based on the delineation of objectives.

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1. Esbensen, T. "Individualizing the Instructional Program," Duluth, Minn., Public Schools, 1966.
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IPI

The Individually Prescribed Instruction program (IPI) was developed by the Learning Research and Development Center of the University of Pittsburgh. The experimental program was begun in 1963 in grades K-6 of the Oakleaf Elementary School in suburban Pittsburgh. IPI will be operational in over 120 schools in September, 1968.

IPI "...consists of planning and conducting with each student a program of studies that is tailored to his learning needs and to his characteristics as a learner." The basic goal is to enable a student to proceed through a sequential curriculum at a pace determined by his abilities and interests. The fundamental aspects of IPI are:

I Curriculum material is based on a sequenced and detailed listing of behaviorally stated instructional objectives.

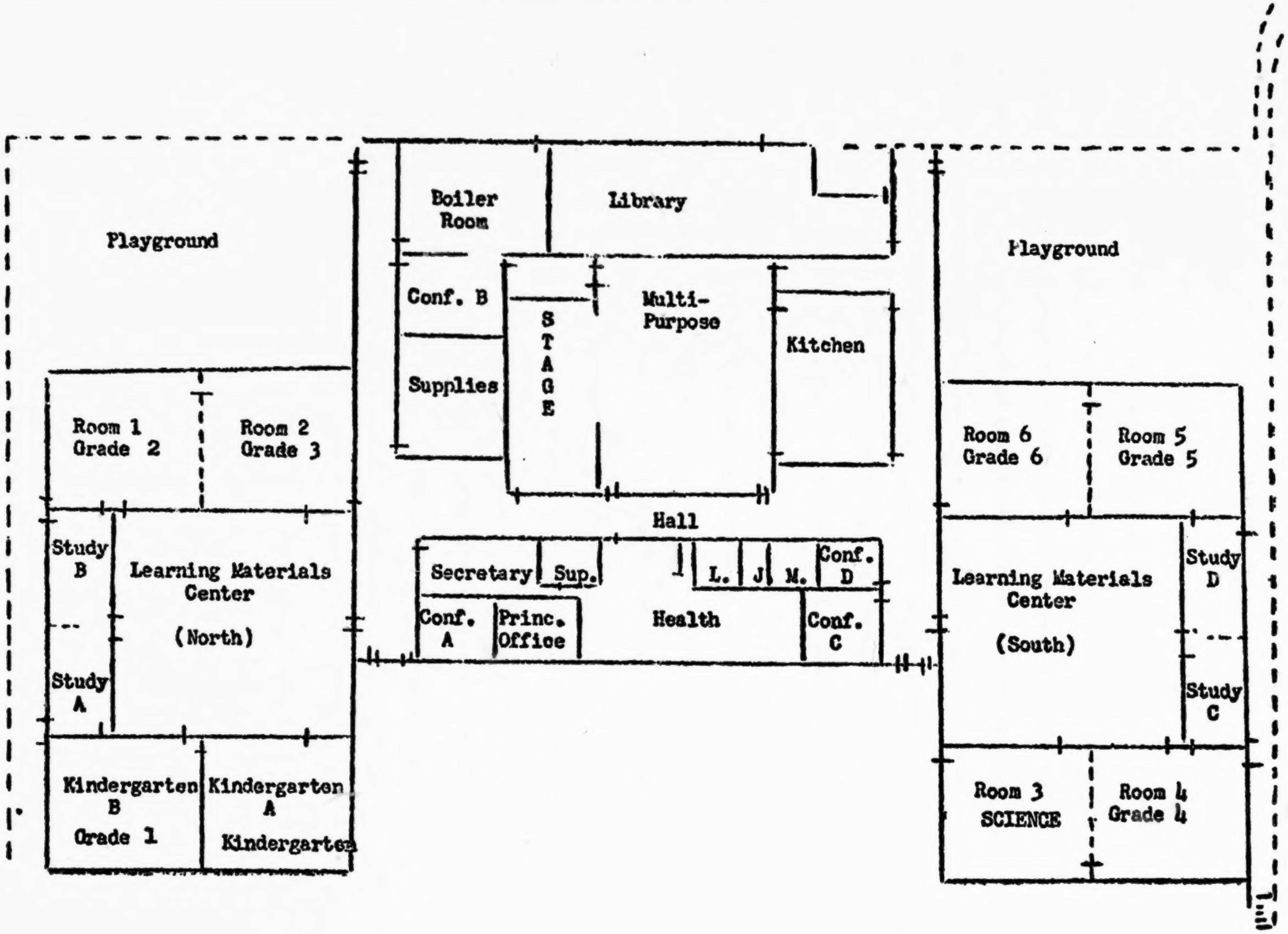
II Each child's rate is dependent upon his performance on continuous evaluative tasks.

III Each pupil performs most of his work independently.

I The IPI curriculum is based on the definition of instructional objectives which delineates what a pupil should be able to do to exhibit mastery of a particular skill and content area. These are generally divided into units that the average pupil can master in one class period and are sequenced so that each builds on the one that precedes it and is a prerequisite to those that follow. Although unit work is based on standard published materials, it is adapted to reflect the specific behavioral objective and to permit the student to work with a minimum of direct teacher instruction. This latter is designed to encourage initiative, responsibility, and self-confidence. The teachers' time is spent in diagnosing pupils' needs, prescribing individual or group work for children, preparing individual learning prescriptions, helping children with instructional problems, and evaluating pupils' records. Aides maintain records and score tests, and ensure that the proper materials are available for each child.

II The diagnosis of each child is done on the basis of rate of learning. Placement tests measure mastery for each unit of work of a particular subject, indicate the strengths and weaknesses of a student, and focus on the areas that need further exploration for proper diagnosis. Pre-test instruments measure each specific objective of every unit within a level of work; these are always assigned before any teaching begins for that unit. Posttests are given at the end of each unit to measure mastery and indicate growth in total behavior; these are alternate forms of the pretests. A student must show at least 85% mastery in order to move on to the next unit.

FLOOR PLAN OF SCHOOL USING IPI


Playground
Room 1
Grade 2
Room 2
Grade 3
Study B
Learning Materials Center
(North)
Study A
Kindergarten B
Grade 1
Kindergarten A
Kindergarten
Boiler Room
Library
Conf. B
Supplies
STAGE
Multi-Purpose
Kitchen
Hall
Secretary
Sup.
L.
J
M.
Conf. D
Conf. A
Princ. Office
Health
Conf. C
Playground
Room 6
Grade 6
Room 5
Grade 5
Learning Materials Center
(South)
Study D
Study C
Room 3
SCIENCE
Room 4
Grade 4

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4. Glaser, R. "Toward a Behavioral Science Base for Instructional Design." Learning Research and Development Center, University of Pittsburgh, Pittsburgh, Pa.: 1965.
5. Lindvall, C.M. and Bolvin, J. "Individually Prescribed Instruction: The Oakleaf Project," Learning Research and Development Center, University of Pittsburgh, Pittsburgh, Pa.: February 1966.
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UES

In individualized instruction, as defined by the UCLA University Elementary School, all decisions concerning the learning task, behavior of the learner, and the pedagogy of the teacher are ideally determined on the basis of a diagnosis of relevant aspects of the learner and his learning environment as each relates to a specified educational objective. The basic goal of the UES program is to develop a learner who is capable of making his own decisions and directing his own learning. The means for reaching this goal presently include: I diagnosis of each individual pupil; II development of learning prescriptions appropriate for each individual; and III a non-graded school structure emphasizing team teaching.

I Diagnoses of children's learning needs begins in the late spring of each school year and is handled primarily by the teachers with some assistance from the school's principal and the child's parents. The diagnosis aims to discover what kind of learning environment will be best for the child's needs at his particular stage of development the following September. The first question is what kind of teacher will be most appropriate for the child; attention is given to teachers' styles in terms of matching such variables as degree of organization, extent of creativity encouraged, and style of reinforcement with the child's needs. The second consideration is what kind of peer group will be most appropriate for the child; attention is given to the amount of academic challenge demanded by the child's temperament and learning style and to the type of social-emotional climate needed by the child at that time. No child is placed on the basis of performance on any academic test. One of the rationales for determining placement on the basis of teacher and peer group criteria is that these latter are the hardest to change whereas the academic program per se is quite easily adapted to individual children.

Diagnoses to determine appropriate learning prescriptions for each child are an ongoing process. Evaluation of what level a pupil is performing in reading, writing, mathematics, and physical exercises are undertaken as well as determinations as to where the pupil is in relation to the objectives of his particular level. Pupil progress is measured by criterion standards rather than normative standards. "Instead of pronouncing the child to be at the fourth grade level, which tells us very little and most of that misleading, these standards seek to provide a profile of where the child is now functioning with respect to the skills and concepts comprising the sequence of learning."

Diagnoses determine the appropriate level of difficulty in a specific content area, the level of cognitive complexity at the given level of difficulty and the behavior most appropriate for the learner. Before the teacher can prepare a learning prescription for the child, he must also answer questions of behavior related to the three preceding content oriented objectives. Answers to these questions should be based on knowledge of the principles of learning rather than the teacher's personal intuition.

A. What is the level of the learner's anxiety or concern about learning? Will raising or lowering this level increase motivation? Should the level of difficulty be raised or lowered to increase his feeling of success? Is his motivation more extrinsic or intrinsic? Is there a way it could become increasingly intrinsic?

B. Is the meaningfulness of the learning task maximized for the learner? Are the "feeling tones" in the learning situation pleasant, unpleasant, or neutral? Should the current state be maintained, increased, or changed?

The University Elementary School is organized in four levels. The early childhood level includes children between the ages of three and six, the lower elementary level between five and eight, the middle elementary between seven and eleven, and the upper elementary between nine and twelve. The objectives of the early childhood level are to develop autonomy, the ability to work and play productively with peers, materials and ideas, a zest for learning, and appropriate relationships with teachers. Although concern with development of a wholesome self-concept is evident at all levels, it is most pronounced at the early childhood level. The goal of the lower elementary level is progressive development in the fundamental skills of self-directed learning, especially reading. The foci of the middle and upper levels is to develop in the child the ability to evaluate his own work and develop his own strategy for learning, to devote some of his free time to overcoming his own weaknesses, to enjoy learning, and to exercise responsible leadership. The central goal of the upper elementary level is increasing the child's ability to understand and use man's approaches to studying social and natural phenomena.

Most children in each level are assigned to clusters working with a team of teachers, but some self-contained classrooms are maintained to allow for particular children's and teachers' needs. The team teaching approach is clearly different from a departmentalized approach. It is not a system in which each teacher chooses her area of particular competency and works with all children at various times in that subject area. Rather, it is a device for cooperative planning, cooperative teaching, and cooperative evaluation. The teacher with the greatest competence in a particular area may provide the leadership for the planning and learning, but all members of the team participate in the planning and teaching. Together, a team determines the appropriate size grouping and the basis on which it should be done.

Grouping may be based on learner rate or learner style (e.g. pupil's level of abstraction, conceptualization, imagination, amount of stimulation, competition, or discipline needed by the child from the tacher and his peers). However, it always focuses on the individual learner and demands his initiative and responsibility. Specialists are most often incorporated into the teaching team. Although the specialist is seen as the expert, he involves the regular teachers in decision making. Thus, the art specialist and the regular team will all be working with the children at the same time, theeby involving the teachers in the learning experience as well.

The UES emphasis on individualized instruction, non-grading, and team teaching is intended to reorient the teacher's role as well as the learner's role. The UES teacher moves away from being a transmitter of knowledge towards behaving as a responder controlled by the pupil. The teacher shifts from being the program-director or initiator-developer toward being a co-designer and contributor-reactor. His role focuses on the expansion of learner growth in self-direction and critical analysis.

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APPENDIX F

LANGUAGE PROGRAMS

1. **Tucson Early Education Model, Tucson, Arizona**

2. **Malabar Reading Project, Los Angeles, California**

3. **Perception-Language-Concept Development Program, New York, New York**

4. **Corpus Christi Bilingual Program, Corpus Christi, Texas**

5. **Language-Bilingual Education Program, Austin, Texas**

6. **Early Childhood Bilingual Education Project, New York, New York**

1. Arizona Research and Development Center - Early Childhood Education Laboratory

The Tucson Early Education Model

by: Marie M. Hughes
Ronald W. Henderson
Jewell C. Taylor

This Model is currently operating in 68 classrooms, grades one through three, in eight public schools of metropolitan Tucson. The student population consists largely of Mexican-American children, most of whom come from economically deprived homes. This is the third year of the project.

Program Rationale

This program is based upon careful identification and definition of

(1) the skills and attitudes necessary to function in a technical and changing society, and

(2) specific performance deficits characteristics of the population of children for whom the program is designed

From the underlying rationale program objectives are specified, which require significant changes in curriculum and modes of instruction for young children from disadvantaged backgrounds.

Program Objectives

The skills which are assumed to be needed to establish an efficient intellectual base for further school performance and successful functioning in the larger society include labeling and identifying, ordering, time orientation, recall, planning, understanding of cause and effect relationships, the discrimination of change processes, and the like. The program is especially designed to develop the language skills required for the elaboration of these basic intellectual processes. Classroom procedures emphasize the development of positive attitudes toward school and achievement which can maintain the child through later educational experiences.

Prominent Features of the Project

1. Instruction in small groups of three to five with as much adult-child interaction on a dyad relationship as possible.
2. Elaboration of the child's own efforts to speak English as well as provision for special pattern drills.
3. Utilization of social and verbal reinforcement to build a positive attitude toward self; to foster achievement and standards of excellence; to specify and differentiate the environment for children.
4. Provision of school activities of interest to young children so that they will want to come to school, to learn English, and to participate in other school tasks.
5. Provision for structured lessons designed to evoke recall, expression of a relationship, adherence to the restraints or conditions of a situation, naming and differentiating attributes of objects, grouping of objects with explanation of basis, and use of conditional phrases.

6. Introduction to the writing, reading, and number symbols of the culture. Children dictate their phrases and stories; they see books used to gain information; they see pictures of things they have seen. A reading environment is built, maintained, and used. Primer typewriters are in all experimental rooms.

PROGRAM CHARACTERISTICS

Organization:

The room is arranged so that multiple aspects of the environment contribute to the total educational impact. This environment permits, elicits, and supports a wide variety of behaviors, including exploration, manipulation, and other forms of interaction with the curriculum materials. Furniture and equipment are arranged to form a number of interest centers structured around common tasks, such as science, cooking, number and measurement, art, reading, writing, etc. These interest centers are defined, focused, and changed through the arrangement of tables, chairs, play equipment, graphic and other curricular materials. This permits small group interaction and better individual contact between adults and child. In all centers, activities are mediated and accompanied by spoken and written language. A reading environment consisting of records of children's own utterance, talking murals which record recent activities, and other stimuli relating to individual and group experience extends across the many interest centers.

A teacher and her aide are the permanent classroom adults. The aide is a high school graduate specifically trained for her classroom role. In addition, a program assistant visits the room several hours each week.

Process

The child's participation and activities within interest centers form the basis for learning. These activities are focused and structured through management of interaction situations and arrangement of furniture and curriculum materials. It is assumed that the skills innumerated above must be exercised in several contexts and situations to achieve generality (transfer). The lines of demarcation between conventional curriculum areas, such as reading, writing, and social studies, have been abolished. For example, numbers and measurement may occur in cooking, games, construction, and many other activities requiring orientation to space, size, and form. The child's own experiences are used as the basis for building the skills of labeling, identifying, recalling, planning, and understanding cause and effect as he moves from center to center.

The adults move from group to group, not only instructing and demonstrating, but also managing and organizing centers so that they continue to elicit the goal behaviors. In any structured teaching or demonstration situation, the adult works with five children or fewer. Thus, if only the teacher and her aide are in the room, then only two groups of children receive formal demonstration or instruction at a given time. Other groups continue to be maintained by the materials and by child-tutors and models. Data indicate that children in this classroom environment receive more individual adult attention than do children in traditional classrooms. In every confrontation with a child, the adult consciously models, elaborates, extends, and reinforces language. The increasing complexity of the environment requires the development of increasingly complex language. All attempts by the child to communicate are reinforced. In addition, the adult differentially recognizes new words, new constructions, and new combinations.

The classroom adults are trained in the techniques of social reinforcement, including praise, attention, and the like. In addition, the materials are chosen for their reinforcing value, and activities are arranged so that they naturally result in reinforcing events; for example, eating food at the end of a cooking experience. It is intended that, through these multiple reinforcing experiences, a basis for positive attitudes toward school can be established. Classroom experiences are extended into the _child's_ neighborhood and wider community. Frequent field trips, walks, and visits to the children's homes constitute an extended learning environment which not only increases the array of experiences, but also facilitates generalization of skills and abilities. At the same time, the child is learning that his own neighborhood is worthy of observation.

PROGRAM IMPLEMENTATION

A unique and crucial ingredient of this program is the inclusion of a change agent whose task is to introduce and maintain the program's innovative practices. The program assistant is a technical consultant who visits the classroom several hours each week. She is not a supervisor in the usual sense of the term, but communicates new techniques and ideas to the teacher, largely through demonstration within the ongoing classroom activities. She has both a training and supportive role. They assist in planning and help the teacher in her tasks of coordinating activities and obtaining needed materials. For optimal functioning, the ratio of program assistants to teachers should be about one to five, in the initial stages of program implementation.

In addition to the training provided by program assistants, teachers and aides receive special training experiences throughout the course of the year.

Implementation of innovative practices requires real change in both the role of school personnel and organizational structure. A too rigid establishment will hamper the development of new classroom practices no matter how attractive the idea may be to individuals. This program requires real change in the physical arrangement of classrooms, in the role of the teacher, in the use of aides to teach, in the involvement of the broader community, in the educational process, and in the active support of a change agent. Local adaptations for local needs are entirely possible within the framework of this program, but the major aspects of its organization and implementation are essential to its success. A school system sincerely interested in innovation must be able to tolerate the impact which innovative practices generate.

REFERENCE

Marie M. Hughes
Arizona Research and Development Center
Early Childhood Education Laboratory
University of Arizona
Tucson, Arizona

Following is a Sample of Lessons Developed Specially for Use in the Tucson Early Education Project

These kits represent some of the experimentation done in the first two years of the Cooperative Project and are the heart of the content utilized for the six- and seven-year-olds. The material is chosen to relate directly to the development of cognitive process. Our major premise is that most of these children come to school under-developed, limited in experiences with a range of objects and situations from which to label attributes and to abstract common characteristics; therefore, the curriculum is designed to provide systematized, guided lessons as an opportunity to acquire and practice a range of cognitive processes -- some of them new. The structured lessons can be carried forward in such a manner that the least or most able child may profit from them.

Such structured lessons are presented to children in small groups (five is considered optimum). It is assumed that most of the objects presented have been used naturally in other situations; for example, more than one kind of spoon will have been used in cooking; jumping rope, clothesline, and rope to pull a wagon will have been experienced. There are several recurring aspects to these situations. The adult in the situation uses language to label, explain, compare, and speculate about the objects present. Common features are abstracted. The child is given opportunity to manipulate and examine the objects. He is asked to relate and associate with previous situations. He is asked to speculate about future uses. He is asked to describe what he sees. The characteristics of the structured lessons just described are familiar to most of you from the tasting experiences and other structured lessons. With the background of experimentation we now have, we can develop these lessons with greater depth and understanding and, hopefully, more prominent results.

KITS FOR INTELLECTUAL TASKS: Questions

Suggestions to encourage Open Ended Responses:

Have you seen anything like this before? (Recall)
How would you use it? (Projection)
If you had one, what would you do with it?
Can you find something in the room that does the same thing?
Where would you go to get something like this?
Can you tell what it was before?

KITS FOR INTELLECTUAL TASKS: Suggested Areas for Exploration
(Start with what's in the room or bring items in, then find things in room that are like items.)

General Categories	Specific Examples for Kits
Adhesives	Pastes, Glues, Cements, Starches, Tapes
Containers	Bottles, Boxes, Bags, Folders, Pans, Pockets
Fabrics	Cloth, Screen, Paper, Metal, Plastic
Fasteners	Yarns, Staples, Wire, Clips, Buttons, Buckles
Measures	Cups, Spoons, Scales, Tapes, Rules, Yardsticks

General Categories	Specific Examples for Kits
Papers	Carbon, Sand, Newsprint, Tissues, Poster
Tools	Scissors, Punch, Stapler, Brushes, Knives

KITS FOR INTELLECTUAL TASKS: Spoons What is a spoon?

Dictionary definitions

- an implement consisting of a small bowl with a handle used especially in cooking or eating
- a slightly curved piece of metal used for bait
- to push or shove with a lifting motion

Possibilities for materials

wooden spoon
sugar spoon
grapefruit spoon
strainer spoon
scoop
gravy ladles
iced tea spoon
serving spoon
measuring spoon
baby spoon
mixing spoon
slotted mixing spoon

Procedure possibilities

- Could be correlated with a cooking experience in which a spoon is used
- Discuss how cooking spoon is made (long handle, etc.) and used
- Recall: "What other kinds of spoons have you seen or used?"
- Allow children to examine and manipulate the spoons
- Function: "How could this spoon be used?" or "I wonder why this spoon has holes or such a long handle; is it made of wood?"
- Labeling: encourage and reinforce labeling: "Yes, wecall this a measuring spoon. What could you measure with thisspoon?", etc.
- Grouping: "What spoons can you put together? Why do they belong together?"

KITS FOR INTELLECTUAL TASKS: Round What is round?

Dictionary definitions

- having every part of the surface or circumference equidistant from the center
- plump
- complete, full
- moving in or forming a circle
- brought to completion, finished

Possibilities for materials

washers
corks
coins
balls
rolling pin
embroidery hoop
spool
ring
coaster
checkers
pencils
hair rollers
hat box
buttons
wheels
orange

Procedure possibilities

- Precede or follow up with book *Round Is A Pancake* or *Wing Of a Flea*
- Have children collect round things from room environment and from home
- Discuss likeness and difference (Example: "How is this round? Is it round in the same way as the spool?")
- Make books that are round in shape to write own stories
- Cut out own round counters to use in math
- Set up art table with only round things (paper, yarn collage items) to make picture or design
- Find round objects in room (clock, beads, balls, etc.) to illustrate and write story
- Name some things not round

KITS FOR INTELLECTUAL TASKS: Rope What is a rope?

Dictionary definitions

- a large stout cord made of strands of fiber or wire twisted or braided together
- a row or string of things united as by braiding, twining, etc. (rope of pearls, etc.)
- a long slender strip of material used as rope (rawhide, etc.)
- a hangman's noose

Possibilities for materials

nylon cord	hemp rope	rawhide	anchor rope

Procedure possibilities

- May be used when introducing or reinforcing measures of length
- Give ample time for manipulation
- Labeling: "What are these called? Are they all ropes?"
- Recall: "Where have you seen ropes before? How were they used?"
- Function: "How could you use a rope? Do we use ropes in our room? (venetian blinds, etc.) Who might use a rope? (cowboys, etc.) Which of these ropes would you use to rope a cow; pull a wagon; make a washline; wrap a package, etc.?"
- Categorizing and Origins: "Which of these ropes go together? Are they made of the same thing? What do you think ropes are made of?"
- Measuring: "Which rope is the longest; the shortest; the biggest?"
- Estimating: (third grade) "How long do you think this rope is? How can we check? (use rulers, yardstick) Can we use these ropes to measure other things?"

KITS FOR INTELLECTUAL TASKS: Chains What is a chain?

Dictionary definitions

- a series of links or rings connected or fitted into one another used for various purposes as of support, of restraint, of ornament, etc.
- that which confines, fetters, or secures
- a series of things linked together (chain of events; chain of mountains)
- a measuring instrument (engineer's chain, 100 feet long; surveyor's chain, 66 feet)

Possibilities for materials

Jewelry chains
brass or steel sash chains
lock link chains
twist link machine chains

straight link chains
passing link chains
decorative raffia chains
lavatory bead chains
key chains

Procedure possibilities

- Children given time to explore and manipulate chains in interest center
- Structured activity:

Recall: "Have you seen things like this before? How were they used?"

Grouping: "Which of these might go together?" (Allow children to explore all possible groupings.)

Function: "How could these be used? Do we use any in our room, etc.?"

Anticipating: "If you had one of these, how would you use it?"

Identifying raw materials: "What materials are used to make these?" Where do these materials come from?"

Labeling: "What do we call these things? Yes, they are all chains."

KITS FOR INTELLECTUAL TASKS: Hinges What is a hinge?

Dictionary definitions

- a jointed or flexible device on which a door, lid, or other swinging part turns
- a determining factor
- a turning point
- a bodily joint that permits motion in one plane

Possibilities for materials

Hasp
Butt hinge
strap hinge
T or H hinge
pliers
Spring Clothespin
pill box
scissors
tweezers
nutcracker
Hair Clamps
bow-tie clip
glasses frames
wallet
match folder

Procedure possibilities

- Exploration: manipulation of hinges in an interest center
- Elaboration: structured activity: let children discuss; build on and extend their knowledge. (Example: "Yes, that is a clothespin. Have you ever seen anything like this before? How was it used? If you had one, how could you use it?")
- Suggest looking for things in room or on own body which works same way
- If term hinge has not come up, introduce and use in identifying hinges in environment
- Identify book hinges and introduce one way to make books with hinged covers
- Use books to record information or make drawings of hinges
- Make comparisons with things that hinges are like and not like
- Discuss differences in size and shapes
- Discuss differences in materials

2. Malabar Reading Project

The Malabar Reading Project, now in its third year of operation, provides individualized reading instruction within small group settings. The program serves predominantly Mexican-American children and includes classes ranging from pre-kindergarten to third grade. Approximately 240 of the 1400 children in this east Los Angeles "poverty" school are considered to be formally in the program. However, many non-Project teachers have incorporated aspects of the program into their classes. Classes within the Project are organized on a chronological age rather than ability level basis.

The major program objectives are to teach the children to read at least up to grade level in the primary grades, to accelerate their functional oral language development, to help children assume responsibility for their academic growth through individualized and self instruction, and to guide parents in learning to help their children develop academic skills.

The project staff considers the means for accomplishing these objectives to be within the reach of other inner-city schools. With the exception of two new pre-school teachers, there have been no increases in teaching personnel, no additional housing or equipment, and no extension of the school day other than a voluntary after-school dance program by a Mexican artist.

The basic elements of the reading program are instruction in phonics, word discrimination, comprehension skills, and the Fernald system of writing. Equal emphasis is given to each of these areas as the staff feels the child must maintain "horizontal balance" among the several aspects of the developing skills.

The Role of the Teacher

Although the project provides the teacher with a framework from which to begin, allowance is made for considerable teacher variation and innovation. Approximately 80% of a child's time is spent in reading-related activities. A rotation system is used whereby groups of 10 - 12 children spend one third of each reading period (approximately twenty minutes) at a kidney-shaped table with the teacher. Under direct supervision, the children work on writing, phonics, or word discrimination. Teachers check children's progress, use flashcards in word discrimination training, and provide immediate assistance.

The degree of teacher supervision of independent activities varies from class to class. Some classes have instituted a contract system which allows children reading at grade level to negotiate with the teacher their work schedule for the coming week. In most classes, while the teacher is working with a small group in reading, the other children are engaged in activities structured by the teacher but selected by the children. They may be practicing handwriting, checking on mastery of old words, copying stories, using "intellectual" games, or experimenting with a variety of self-instructional materials. Although the teacher delineates the appropriate range, the children choose which books to read, what stories to write, what words to learn, and what sounds to listen to. Children may work individually, in pupil-to-pupil tutoring situations, or in larger groups. They are free to move about the room and to talk with their classmates.

Materials and Equipment

Instructional objectives for each of the five areas parallel level of reading ability judged according to the type of primer the child is using. The project teachers and resource personnel have developed special materials and self-teaching aids, including such items as phonics workbooks, advanced phonics reference books, four bilingual books, and teacher-made games (e.g. word lotto based on basal reader vocabularies and "phonopoly" based on phonetic elements the children are currently learning). These materials are supplemented by a variety of reading books and workbooks, and commercially available self-teaching materials specifically selected for the varying reading ability levels of the children. All children have word boxes which contain the words they have utilized in their story writing. Classroom walls are utilized for displaying learning activities, such as work with blends, display of stories, self-testing kits, and felt boards used for construction of words. Reading corners are equipped with tables and extensive libraries.

Writing areas are equipped with typewriters. Desks have been replaced by long kidney-shaped tables.

A preliminary evaluation of the Project indicates increased reading ability for the school's experimental population. The average score on the Stanford Reading Test Project by first graders was at the 8th percentile in January 1968 as compared to an average score of the third percentile in January 1967. 55% of the first graders scored in Stanine 3 or above in 1968 as compared to 22% in 1967 and 7.5% in 1966.

In addition to the continuing evaluation, another research project is studying the relationship between competency in oral English syntax and reading achievement of Project children.

Observer's Comments

The atmosphere of a project classroom appeared to be noisy, busy, and productive, yet quite well ordered. In most instances children seemed engrossed by their chosen materials and worked with these materials for long periods of time. They tended to work in close proximity to one another, yet proceeded quite independently. Exceptions, of course, were tutoring activities and instances where teacher assistance was requested. Many children were engaged in independent oral reading. A number of times children were heard to say "Don't tell me" to their neighbors. Several children were unwilling to leave their work for recess; one teacher had even forgotten to send her children to recess. In general, the children appeared quite at ease with unknown adults. Children in several classrooms approached the observer to display their work. One child asked the observer to test his spelling knowledge.

Although in-service training, use of video tapes of classroom activities, and informal exchange of ideas and materials among Project staff have all been beneficial, considerable time must still be allowed for a teacher not acquainted with individualized instruction to adjust her teaching style. The need for master resource teachers in instituting the Project was stressed.

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For further information, write to Miss Constance Amsden, Malabar Street School, East Los Angeles, California.

3. The Perception-Language-Concept Development Program

Miriam Goldberg

Ann Boehm

Rochelle Kairer

Clara Rome

Lenore Sleisinger

The intent of the Perception-Language-Concept Development Program (PLC) first grade program is to provide the children with rich and interesting experiences which facilitate learning to read and increase the likelihood of early school success, thus enhancing motivation for learning. The emphasis is on creating a clearer perceptual and conceptual awareness of the world, expanding both expressive and comprehensive language, and acquainting pupils with literature, but children who demonstrate a strong interest in learning to read are encouraged to pursue their interest. Although there is no formal group instruction in reading until the last two months of the year, pupils who show both interest and competence can engage in reading.

The PLC first grade program is part of a larger research project (Beginning Reading Project -- directed by Miriam Goldberg) which is investigating a number of approaches to beginning reading. Since the introduction of formal reading instruction in first grade confronts many children with great difficulties and consequent failure, the PIC first grade program has been designed to substitute for the usual formal reading program one which stresses the development of those perceptual skills and language and conceptual processes which appear to be prerequisite to success in reading.

Perceptual activities stress increased awareness of body in space, and visual and auditory discrimination with emphasis on left to right progression. Auditory perception include activities in rhyming and knowledge of beginning sounds in both spoken and pictured material. Exercises in auditory patterning and auditory-visual integration (the ability, for example, to translate the visual symbol . . ___ seen on the blackboard into two short and one long sound by tapping or clapping) are also included.

In order to learn to read easily, it is necessary for the child to recognize likenesses and differences in words and letters. Although the children are not required to learn letters until the final two months of the program, they have many experiences in making finer and finer discriminations among various visual symbols. Attention is also paid to visual-motor skills, necessary for writing ability as well as the development of comprehension through practice in verbal sequencing of events, listening for meaning, acting out stories, etc.

A major need of children from disadvantaged backgrounds is the increased ability to express themselves through language. Therefore, children are first taught to ask questions about and describe their immediate surroundings. Then they talk about pictures which represent increasingly complex situations. Gradually children can explain meanings and relationships, act out sequences of events, and predict outcomes. The use of complete sentences, correct use of plurals, descriptive words, and the past and future tenses are emphasized. Greater clarity in differentiating between words and meanings is stressed so that reasoning or thinking can become more precise.

There is considerable evidence to indicate that learning proceeds in stages (Piaget). We know from experience with middle class children that thinking develops in an orderly manner, and that one stage must be passed before another stage can be entered. One of the aims of the PLC program is to help children pass through the necessary earlier stages of intellectual development in order to be able to engage in reasoning at a more abstract level; to bring their level of logical thinking to that of more advantaged children. Children are taught to deal with more than one attribute of a situation at one time so that more complex forms of classification become possible; to sequence or order events in a logical manner; understand cause-effect relationships; and to realize that materials can change form and still be the same materials. It is hoped that a firm conceptual foundation will not only help children learn to read and comprehend what they read, but will also help them in dealing with arithmetic and scientific relationships.

The PLC first grade program consists of the following general areas:

A. For pupils who had had the PLC kindergarten program

1. Approximately 4-6 weeks of review of the kindergarten PLC material.

2. A story each week, exposing children to a common core of classic modern children's literature, for the purpose of vocabulary building, dramatization, and sequencing of events. Emphasis is placed on verbalization, listening and attention, following directions, and memory.

3. Economics and science materials are used to observe, talk and think about a common core of experiences. Emphasis is given to thinking about a sequence of events and their possible outcomes.

4. Learning the calendar and the telling of time.

5. Auditory perception, beginning with rhyming which leads to discrimination of letter sounds. Some attention is paid to auditory-visual integration.

6. Refinement of visual discrimination skills prior to exposure to letters and words.

7. A conceptual program emphasizing classification, ordering and conservation uses of existing contemporary science and math materials as well as materials specifically designed for this program.

8. The last 4-8 weeks are spent on the identification and writing of letters (i/t/a where appropriate) and on the sounds of letters and their combinations.

9. Throughout the year, children who show an active interest in learning to read, as evidenced by asking "What does this say?" or seeking verification of words that they have figured out, are given every encouragement and help to proceed.

B. For pupils who had not had the PLC kindergarten program, the first grade program has the same goals as above but the procedures are somewhat different:

1. The first 3-5 months are spent on the PLC kindergarten program, adapted to the needs of first grade pupils. The amount of time spent on this work varies according to the level of mastery achieved by the group and according to the level of attainment of individual pupils. Therefore, the class is divided into groups for instruction.

2. The content listed in areas three (3) to seven (7) above will be introduced at later points during the first grade year, except for those pupils who show that they are ready to proceed to the new materials earlier.

For all classes, lessons indicate the specific tasks to be covered week by week. Each child has his own workbook from the SRA Thurston "Learning to Think" series. The Ginn "Language A" program, Continental Press materials, selected portions of the SRA economics program, and John Day photograph albums from the "Urban Cities" series are used. Science units, mathematical concept cards, and manipulative materials are also supplied.

REFERENCE

Dr. Miriam Goldberg

Dr. Ann Boehm
Box 126

Teachers College

Columbia University

New York, New York

4. Corpus Christi Bilingual Program

The Corpus Christi, Texas Bilingual Program was begun in four experimental first grade classes. The major premises of the program are: (a) The child who is taught in his mother tongue while developing a basic understanding of spoken English, will be able to move at a faster rate and with more success when he subsequently undertakes the reading of English; (b) Reading skills, as well as certain basic concepts in science, social studies, and health, can be taught in Spanish while the child is developing a basic acquaintance with spoken English.

The program will be expanded to include fifteen classes in September 1968 and will be continued through the third grade.

For further information: Mr. Antonio Perez
Director
Corpus Christi Independent School District
Corpus Christi, Texas

5. Language-Bilingual Education Program

The Language-Bilingual Education Program is being demonstrated in San Antonio, Edinberg, and McAllen, Texas as well as in four schools in New York City. The program presently includes grades one through four but will eventually extend through grade 6.

The primary purpose of the program is to develop the oral language skills of children through the teaching of English as a second language. The children are taught content from subject disciplines at the same time as they are taught relevant language skills. As concepts are established, the structured language program is instituted. The program's focus is on sequential language patterns and vocabulary development and "incorporates the children's natural responses." Basic sentence structures are modeled by the teacher, then practiced orally by individuals and small groups, and then by the entire group. Pattern repetition, academic games, and rewards are used.

Other aspects of the program include teacher training and development of materials and evaluation instruments.

For more information: Dr. Elizabeth Ott
Southwest Educational Development Laboratory
Suite 550, Commodore Perry Hotel
Austin, Texas 78701

6. **Early Childhood Bilingual Education Project**

For more information: Yeshiva Graduate School
Room 1301
55 Fifth Avenue
New York, New York 10003
(212) 255-5600 Ext. 413

APPENDIX G

PROGRAMS USING PEER TUTORING

1. **The Homework Helper Program**

2. **The South Vermont Tutorial**

3. **The Ohio Civil Rights Commission**

1. The Homework Helper Program was begun by Mobilization for Youth in 1963. 110 eleventh and twelfth graders were employed as tutors for 330 fifth graders. Nine Homework Centers were staffed by nine master teachers (whose functions were training and supervision) as well as parent attendants. Pre- and in-service training were conducted for tutors. In concentrating on improving reading skills, the program emphasized work with materials that were not used during the regular school day.

2. The South Vermont Tutorial was organized as a pilot project by the Western Student Movement (a non-profit corporation comprised of college students and recent graduates) of Oakland, California. The Tutorial involved high school students as tutors for elementary school children. Orientation and training sessions were led by Los Angeles City school personnel and UCLA faculty members. The tutors worked with younger children two or three afternoons per week and concentrated on basic subjects. Recommendations by the Western Student Movement based on this pilot project were: (1) High school students should be involved in planning such a project from the beginning; (2) At some point, adult leadership from the community must become committed to the project.

3. **The Ohio Civil Rights Commission sponsored a program in which high school students were trained by reading specialists. Both inner-city and suburban students were trained to tutor inner-city elementary school children.**

APPENDIX H

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